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Croonian Lectures
ON
THE NUMERICAL METHOD, AND ITS APPLICATION TO THE SCIENCE AND ART OF MEDICINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, 1860.

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PART V.

Average and Extreme Values drawn from Small Numbers of Facts. Such Averages are in use by persons entitled to consideration. Averages from Small Groups of Facts may coincide with the True Average or differ but little from it. Examples. Extreme Values. Necessity of Collecting very Large Numbers of Facts in order to ascertain them. Average Values derived from Small Numbers of Facts are sufficient to refute rash Assertions, careless suggestions, Tests based upon scanty Observations, and Assertions springing out of wild and fanciful Hypotheses. Examples. The Lung Test of Ploucquet, and the Measurements by Orfila of the Long Bones. Hahnemann's recommendation of Belladonna as a Preventive of Scarlatina. Experiments of Dr. Balfour. Averages from Small Groups of Facts may also be used with advantage when the results obtained are uniform in character, or the differences between contrasted series strongly marked. Examples from a Series of Inquiries into the Health of Letter-press Printers, London Bakers, and Intemperate Persons.

I RESERVED for this lecture the very important practical question of the use (if any) which we may be allowed to make of average and extreme values derived from small numbers of facts.

Those persons who are in the habit of accepting universal usage as an answer to all doubts and difficulties, would perhaps be satisfied if they were told that averages drawn from small numbers of facts are largely used, and much relied upon, by observers whose sagacity and sound sense are never called in question. But even persons of a more sceptical turn of mind, who insist on thinking for themselves, and who repudiate mere usage and authority, will see that good reasons may be assigned in favour of the use of averages deduced from small numbers of facts. The facts brought forward in the early part of my last lecture will, I think, predispose such persons to this view of the case.

It is obviously *possible* that in making use of an average derived from so small a number as twenty-five facts, for instance, we may chance to encounter one or other of the widely-separated extremes, or some average bordering upon those extremes. But just as, in the common affairs of life, we are not deterred from action by the thought of what is *possible*, but prefer to look to what is *probable*, so in matters of science we are justified in making use of probabilities, instead of being compelled to absolute inaction by the dread of what is possible but not likely. Perhaps, therefore, if we make a different use of the facts which seem to raise so formidable an obstacle to our dealing with small numbers of observations, we may find reason for taking a more favourable view of such a procedure. Let us see what will happen if, instead of confining our attention to the extreme average results of different numbers of facts, or in other words to the *possible*, we take into account the average results which approach the true average, no less than those which are removed from it, or, in other words, the *probable*.

I will suppose that we have collected twenty-five facts, and calculated an average;—it is clear that this average, small as is the number of facts on which it is based, might coincide with the true average, or be so little removed from it, as not to affect our reasonings in any way, or to lead to any error worth mentioning when comparing that average with the result of some other similar calculation.

The facts relating to the ages at death of the English aristocracy will supply us with a very good illustration. The average age at death of this class, as deduced from 1,600 recorded ages, is 60¼ years, or, in round numbers, 60 years. Now out of 72 groups consisting each of 25 facts, no less than 9 groups, or one-eighth of the whole, correspond with the true average; while 26 groups, or more than one-third of the whole, either correspond with the average, or exceed or fall short of it by a single year; and 35 groups, or almost exactly one half of all the groups, either coincide with the average, or are removed from it by only two years in excess or defect. If we group this same order of facts by fifties, instead of twenty-fives, no less than 25 in 36 groups are found either to coincide with the true average, or to approximate so near as two years in excess or defect.

The same kind of result happens when we adopt the same plan with the 6,400 facts relating to the mean age at death of the mixed upper and middle classes of English society. The true average in this case is 66 years; and there are no less than 20 instances out of 128, or about 1 in 6, in which the average of 50 facts coincides with the true average. The instances in which the average of 50 facts coincides with the true one, or exceeds or falls short of it by *one* year only, are 42 in number, or about one-third; while the instances in which the averages either coincide with the true one, or do not depart from it by more than *two* years, are 71 in number, or considerably more than one-half of the entire collection of groups of 50 facts.

The same result, again, happens with the averages showing the attendance of male patients at the hospital. There are just 15 instances in which the averages of 50 facts coincide with the true average of 40 per cent. This is at the rate of 1 coincidence in every 8 averages; while no less than 44 averages, or more than one-third, either coincide with the true average or do not depart from it more widely than 2 in excess or defect.

From the facts and considerations which I have just adduced, I think that I am justified in inferring that the objections to the use of comparatively small bodies of facts which arise out of the divergence of the extreme values when facts are few, and their convergence when facts are many, if not removed, are at least robbed of much of their force. Seeing that there are so many instances of coincidence between the averages derived from small numbers of facts and the true average, and so many other instances in which the averages of small numbers of facts differ but little, whether in excess or defect, from the true mean, we shall certainly be justified in making use of these averages from small groups of facts, provided that we speak of the evidence they afford with due reserve, and lose no fitting opportunity of confirming or invalidating the inferences which we draw from them. To reject such averages altogether would be to throw away very valuable opportunities of enlarging the boundaries of science.

The difficulty of collecting a considerable number of facts in illustration of any one subject, especially when it requires for its elucidation a series of averages, would form a very serious obstacle to the promotion of science. If, for instance, instead of collecting, as I did several years since, 25 observations at each of 13 intervals of age, in order to ascertain approximatively the number of the pulse at different periods of life, and in the two sexes (a task which involved, as it was, no less than 650 separate observations), I had felt that no average could be of any service unless it was based upon hundreds of facts, I should have shrunk from the undertaking in despair. As it is, I have obtained results which, though not absolutely true, may be looked upon as very useful approximations—near enough

to the truth for the purposes of the physiologist and practitioner.

Be it recollected that I am speaking of *averages*, not of *extremes*. Now, it is obvious that in order to arrive at real *extremes*, we must accumulate vast numbers of facts. Millions of facts, for instance, would have had to be collected in order to find that single extreme of old age presented by that famous personage old Parr; and millions of facts would be exhausted in arriving at a Daniel Lambert, or such other miracle of obesity. So of giants and dwarfs.

Up to this time, I have examined the question of the number of facts which will suffice to supply a true average as an abstract question, with little or no reference to the special questions for the solution of which our facts were collected and our averages struck. But it is evident that these special questions differ very widely from each other, and that some will require at our hands a very laborious, skilful, and subtle treatment, while others may be decided quickly, as well as satisfactorily, by a very sparing use of figures, and a short, quick, and decisive manipulation. To the first class belong the greater part of our hygienic and therapeutic inquiries—inquiries into the true influence of locality, occupation, and habits of life, on health and longevity—and inquiries into the alleged efficacy of particular remedies or modes of treatment. To the second class belong hasty and rash assertions, careless and superficial suggestions, and tests based upon scanty observations or ill-devised experiments. Also a widely different and very important class of inquiries in which conviction is forced upon the mind by the uniform character of the few facts observed, and the marked contrast existing between the average and extreme results of two groups of observations modelled on a sound plan and conducted with true logical consistency. Sometimes we are called upon (as in the attempt of Orfila to which I referred in my last lecture, to calculate the stature of the body by the length of a cylindrical bone) to make a better use than it occurred to the observer himself to do of his own facts, and, by applying some simple and sound logical method, to show the error into which he had fallen. Sometimes we have to meet some plausible suggestion based upon a very small body of facts by so manipulating another small collection of facts as to demonstrate the futility of the suggestion; such was the case of the static lung tests which I also brought forward in my last lecture. One test rested from the first on a mere assumption, the other was proposed on the strength of three facts, one of which ought not to have been used at all; and about thirty really comparable facts, logically arranged and compared, were obviously sufficient to condemn the first of these tests. The second stood self-condemned.

There is another very peculiar class of cases in which we feel instinctively that it is mere waste of time to collect large masses of facts. I mean cases in which we distrust from the first either the honesty or the sanity of the person who proposes a remedy or a preventive. We do not trouble ourselves to combat the dishonest assertions of advertising quacks by putting on the heavy armour of statistics, or wielding the *pièces de précision* of logic; and when we have to do with the apostles or disciples of wild medical heresies, we feel that a very moderate array of figures will suffice to dispose of their most plausible assertions. I will take a case in point. Hahnemann, the fanciful founder of the homœopathic hypothesis, in the course of that amusing series of experiments on his own person which supplied him with many of the data for the alleged virtues of his pharmacopœia, administered to himself small doses of belladonna; and either having a slight cold at the time, or bringing his *attention* and *imagination* to bear on every slight sensation which he happened to experience, really felt, or thought that he felt, some soreness of throat, and saw, or thought that he saw, some redness of skin. These real or fancied sensations, supported by quotations from authors, afforded to him quite ground enough for the assertion that belladonna was a prophylactic against scarlet fever. Two drops of a solution of three grains of the extract in an ounce of water, given twice a day to a child a year old, were alleged to be an almost unfailing preservative from the contagion of the fever. And, strange to say, many practitioners who have no faith in Hahnemann's experiments or hypotheses, have given belladonna, and have deemed it efficacious in preventing scarlet fever. They have probably been induced to make a trial of the alleged preventive by the very natural and excusable desire to give confidence to that class of patients who will insist on interference and activity of treatment at the hands of their medical attendant; and they have fallen into the very common error, on which the success of the charlatan, equally with that of the more regular practitioner, so largely depends, of confounding the *post hoc* with the *propter hoc*. They happened, in their practice, to encounter patients to whom they gave the belladonna, and who enjoyed also an immunity from scarlatina, and they jumped to the conclusion that the belladonna had been the cause of the freedom from attack.

Now, I need not say that an alleged preventive, recommended on the strength of Hahnemann's experiments, or put forward in conformity with his hypothesis, does not require a heavy battery of facts and figures to demolish it. An experiment on a very small scale is all that the supporters of Hahnemann's hypothesis, or the believers in his alleged preventive, have a right to expect at our hands. Such an experiment, devised with true logical acumen, and carried out with corresponding care, was made by my friend, Dr. Balfour, at the Royal Military Asylum at Chelsea. Scarlet fever having broken out in the institution, Dr. Balfour took 151 boys of whom he had tolerably satisfactory evidence that they had not had scarlatina, and divided them into two sections, taking them alternately from the list, to prevent the imputation of selection. To the first section (76) he gave belladonna; to the second (75) he gave none; the result was that two in each section were attacked by the disease. Of this experiment, Dr. Balfour modestly says, "The numbers are too small to justify deductions as to the prophylactic power of belladonna, but the observation is good, because it shows how apt we are to be misled by imperfect observation. Had I given the remedy to all the boys, I should probably have attributed to it the cessation of the epidemic." (See West *On the Diseases of Infancy and Childhood*, 3rd edit., 1854.) I think you will agree with me, that a perfectly gratuitous assertion, advanced in support of a very fanciful hypothesis, has met at Dr. Balfour's hands with much more respectful treatment than it deserves, and that the facts adduced are amply sufficient under the circumstances of the case.

Of that class of inquiries in which conviction is forced upon the mind by the uniform character of the facts observed, or by the marked contrast of the average and extreme results of two groups of observations, I have yet to give some examples. I have no difficulty in finding illustrations of both kinds in my own inquiries into the influence of occupations upon health. I will take the series of inquiries relating to letter-press printers, referring you for minute information concerning them to the first volume of the *First Report of the Health of Towns' Commission*, published in 1844. I will merely remark that I took every precaution to conduct my inquiries and make my comparisons with logical accuracy and precision. In the course of these inquiries, I collected information respecting two groups of 40 compositors. One group of 40 worked in 5 rooms, which yielded to each man, on an average, 303 cubic feet of air; the other group also worked in 5 rooms, which gave to each man the more liberal supply of 789 cubic feet of air. The only other difference between the two sets of rooms was in the number of gas lights. The one set were lighted by 60, the other by 75 gas jets. I made the circumstances of the two groups as equal as I could, by dividing the quantity of air per man by the number of lights burning in the evening, and thus obtained a quotient of 5 against a quotient of 10¼. The figures 5 and 10 represented fairly enough, for purposes of comparison, the condition in respect of the supply of air of the two groups. The first group, after correction made for the number of lights, had less than half the quantity of air which the second group had; and out of the 40 men working in the smaller rooms, 5 had spit blood, 6 were subject to severe colds, 6 complained of indigestion, 2 of great debility, and 1 of rheumatism. On the other hand, of the 40 men working in the more spacious rooms, not one had spit blood, 1 only was subject to colds, 1 to pain in the chest, 2 to indigestion, 1 to nervous symptoms, 1 to headache, and 1 had varicose veins.

Now, though forty facts is but a small number, and would be felt to be wholly insufficient to determine any disputed question, if the results yielded by the two groups had differed little in character or number, I was satisfied at the time of the inquiry, and am still more convinced now, that the figures in this case were the numerical expressions of a great truth, which would be confirmed by all future inquiries. I was confirmed in this belief, at the time, by the striking coincidence of the results in the case of the two groups of forty collected from different printing offices with analogous results of comparisons somewhat different, but scarcely less exact, made under the same roof. You are probably aware that a very vicious principle of construction prevails in many of our great printing establishments. The building often consists of one space, divided horizontally by floors perforated by a common staircase. The lower

floor is occupied by the steam-engine, the heat from which, together with the foul air of the intermediate rooms, rises into the upper floor. In most cases of this kind the two upper floors are thickly occupied by compositors. Now two printing offices having this very faulty construction supplied me with two comparisons, which I was not surprised to find issued in a decided confirmation of the results to which I have just referred. In one of these offices, 15 men were employed on the second floor, and 17 men on the third and uppermost floor. Of the 15 men on the second floor, 1 had a cough, 1 was subject to indigestion, 1 had ulcers of the legs, and 1 might be termed a valetudinarian. But of the 17 men employed in the upper room, with a smaller quantity of a more impure air to breathe, 3 had spit blood, 2 were subject to affections of the lungs, and 5 to constant and severe colds. In the other printing office, out of 15 men employed in the lower of the two rooms, 1 only had spit blood, 1 complained of weakness, and 1 of dyspepsia, making 3 in all; while out of 20 men in the upper room, having less and worse air to breathe, 2 had spit blood, 2 were dyspeptics, 2 had rheumatism, 2 were hypochondriacs, 1 was subject to headache, and 1 had varicose veins. In the lower room, the invalids were as 4 in 20; in the upper room, as 10 in 20.

The general results of the inquiry were in strict accordance with those drawn from the smaller numbers of facts; and though the whole body of facts scarcely exceeds 300, I place as firm a confidence in the broad general principle which the figures express as I do in the most rigorous and exact demonstration of the mathematics. Had the percentage proportions differed but little from each other, I should have spoken with hesitation, and waited either for more facts of the same order, or for confirmation, or the reverse, at the hands of others.

To this illustration of the sufficiency of comparatively small collections of facts, I will add a second, drawn from my inquiries into the health of a class of men whose hard case is now deservedly attracting much public attention and sympathy. I may state briefly that these men (the journeyman bakers) are exposed to the combined operation of overwork and nightwork, of a very confined, heated, and impure atmosphere, and of frequent mechanical and chemical irritation of the lungs—the mechanical irritation of the flour, and the chemical irritation of the sulphurous acid and smoky gusts from the oven's mouth. Well, I compared these men with other classes, and particularly with the compositors. I purposely selected about 100 compositors working in the smallest, closest, and hottest rooms, and, taking the occurrence of hæmoptysis among them as a good test and measure of their liability to consumption, found it at the rate of 12½ per cent. This proportion, be it recollected, represents the extreme of disease among compositors. This result I proceeded to compare with the percentage of spitting of blood in 111 journeymen bakers. It turned out to be 31 per cent. But when I compared this worst group of compositors with the poor bakers who work in the worst places for the worst class of masters—I mean the under-priced bakers—the proportion rose to 1 in 2; and of those whom I examined, no less than 6 in succession had spit blood. Now, here again, if I had not sought and found additional facts of the same class, I should have certainly placed the most perfect reliance on the results of this comparison of one century of facts with another. I should have felt confident that my percentages were the numerical expression of a great truth, though not of the precise ratio of the liability to consumption of the two classes of men.

I will ask your attention to only one more inquiry of this kind. Having, several years since, obtained from the Registrar-General nearly 10,000 ages at death of adult male inhabitants of London dying in 1839, I arranged them in groups, with a view of illustrating the influence of occupation and habits of life upon health. One habit, the influence of which upon health it seemed desirable to ascertain, was that of intemperance; and I thought that if I compared the average age at death of certain classes known to be peculiarly exposed to the temptation of drinking with the classes most resembling them, but not so exposed to temptation, I should obtain some instructive results. I accordingly compared the brewers' draymen with the mass of labourers, potboys with footmen, and licensed victuallers with other tradesmen. In each case I found the percentage proportion of deaths between the ages of 30 and 50, and particularly between the ages of 30 and 40, in excess in the class of men most exposed to the temptation. In the case of two out of the three comparisons, the excess was such as to show itself most strikingly when the percentages were converted into curves. Now, this was a case of what would be generally thought a very insufficient collection of facts. The deaths of draymen were only 51 in number; and those of potboys or potmen only 61. The other classes were much more considerable, and perhaps adequate in number. Now, I should have attached no importance to those figures, or to the curves which represent them, if the percentages and curves had approximated at all closely to each other. But as it was, I deemed the figures and curves good, partly for illustration, and partly for use in conjunction with other facts leading to the same results.

And here let me observe, that as a broad general rule (at least in my own experience), the numerical results obtained by dealing even with moderate collections of facts have very generally borne out the views of the sounder class of thinkers, who have formed their opinions by means of that unrecorded collection of observations which we call experience. Perhaps I ought to add that they have as often run counter to the hypotheses and theories of men who have shaped their views upon their wishes and hopes, rather than upon their real experience.

In my next and last lecture, I shall consider the most interesting general fact which statistical inquiries have made known to us—the recurrence, year by year, of aggregate figures of nearly equal value, as representatives of the great leading facts of social and medical science.

A Course of Lectures
ON
URINE, URINARY DEPOSITS, AND CALCULI.

DELIVERED AT THE PATHOLOGICAL LABORATORY, DURING THE SESSION 1857-58.

BY

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LECTURE VI.

THE ANATOMY OF THE KIDNEY. ITS ACTION IN HEALTH AND DISEASE. *Cortical and Medullary Portions of the Kidney. Pelvis. Mammillæ. Infundibula and Calyces. Artery. Vein. Nerves. Lymphatics. Secreting Apparatus. The Uriniferous Tube. Of the Circulation in the Kidney. Epithelium. Of the Basement Membrane of the Tubes and of the so-called Matrix. On some Points connected with the Physiology of the Kidney.* ON THE FORMATION OF CASTS OF THE URINIFEROUS TUBES. *Of the Cast. Circumstances under which the Renal Secretion may be altered in Quantity or Quality. On the Absorption of Substances from the Stomach, and their Excretion in the Urine.* MORBID CHANGES AFFECTING THE STRUCTURE OF THE KIDNEY. *Of Bright's Disease. Dr. Johnson's Investigations.*

[*Continued from page* 490.]

On some Points connected with the Physiology of the Kidney. The course of the blood has been fully described, and it has been shown how eminently adapted the Malpighian tuft is to facilitate the free escape of the watery parts of the blood. The influence of the nervous system upon the secretion of urine is well known. Nerves may be traced upon the large arteries, and followed on the small vessels for a considerable distance. I have seen nerves upon the Malpighian arteries which may be traced up to the tuft. I have not succeeded in demonstrating nerves in connexion with the capillaries of the tuft; but a careful examination of several specimens has led me to conclude that these capillaries are supplied with nerves, as appears also to be the case with the capillaries of the ciliary processes of the eye, and some other capillary vessels. I am now investigating the mode of distribution of the nerves to vascular structures, and I hope soon to be able to express myself more definitely on these very interesting questions.

Virchow lays considerable stress on the existence of a collateral circulation through the vasa recta. He considers that the circulation in the medullary portion of the kidney is more free than it is in the cortex, because the blood in the latter region does not pass through Malpighian bodies. There can be no doubt of the correctness of Virchow's views upon this question, and I can confirm many of his statements from personal observation. Some time since, in examining some specimens of diseased kidney, I was much struck with the thickness of the walls of some of the vasa recta in the pyramids. Upon

further examination, these were found to exhibit the circular muscular fibres so characteristic of arterial walls. I have since carried out further investigations upon the healthy kidney, and

Fig. 21.—Capillary vessels from the Malpighian tuft of a human kidney which had been injected with dilute Prussian blue injection, showing nuclei connected with their walls. *a.* A few coils separated from the rest of the tuft. *b.* Part of a loop somewhat compressed, showing the nuclei a little flattened. *c.* Tissue which connects the coils with each other, and thus the globular form of the tuft is preserved, even when it is removed. *d.* A small portion of a capillary compressed as much as possible, showing the thickness of the capillary wall at the point of reduplication.

have found that many of the straight vessels running parallel with the tubes in the pyramids of the kidney are in reality small arterial branches with muscular walls. These are supplied with nerve-fibres. I suspect that some of these branches communicate very readily with the veins in the same situation. This subject is one of very great interest, in connexion with the renal circulation.

In a state of health, the diminished rapidity of the circulation in the capillaries of the Malpighian body, consequent upon the greatly increased area of the capillaries which the blood must traverse as it flows from the small artery which alone supplies them, favours the transudation of water through the capillary walls. This fluid must at once pass into the uriniferous tube; and as it gradually traverses in succession the cells which line it, the soluble substances which they are at the same time separating are dissolved out—the quantity of solid constituents gradually increasing as the solution passes down the tube. Now, the blood just brought from the Malpighian body has parted with water, and is richer in urinary constituents than the blood in any other part of the kidney. This is conducted by the vessels into which the efferent vessel of the Malpighian body divides to the upper part of a uriniferous tube near the Malpighian body. We should expect that the cells in this region would be more fully charged with soluble urinary constituents than those lower down the tube; and, in accordance with this view, we find that these cells are acted upon by the almost pure water which has just escaped from the capillaries of the Malpighian bodies; while, by the time the fluid has reached the cells at a lower point of the tube, it is already charged to a great extent with soluble constituents, and its solvent power is, of course, proportionately diminished.

Not the least important office of the cells lining the convoluted portion of the uriniferous tube is undoubtedly that of separating from the blood a considerable quantity of the *débris* of blood-corpuscles, in the form of extractive matters. It is possible that the cells may have the power of altering some of the substances they separate from the blood, and converting them into these peculiar urine extractives, the physiological importance of which, we may feel sure, must be very great, from the large amount which is excreted.

I have ventured to ask your attention to these minute anatomical points, because they seem to indicate conclusively the office performed respectively by the Malpighian body and by the epithelium of the uriniferous tube, as discovered by Bowman nearly twenty years ago. These views have lately been opposed by Dr. Isaacs in America, who tries to prove that the solid constituents are separated by an epithelium covering the capillaries of the Malpighian body (which, if it exists, is certainly very unlike glandular epithelium generally, and the cells must be very much smaller than he has represented); while, strange to say, he does not attempt to show what office is performed by that enormous extent of epithelial surface in the convoluted portion of the tube, or why the very peculiar relation between the extensive system of capillaries around the tubes and those of the Malpighian body exists. Bowman's views on the physiology of the kidney are supported by so many different facts, that they are now received by all who have carefully studied the subject from the different points of view which he has indicated.

On the Formation of Casts of the Uriniferous Tubes. Such, then, being the action of the kidney in health, let us consider briefly how this may become altered in certain cases. If the arterial walls were relaxed, more blood would pass into the Malpighian capillaries in a given time, and a great transudation of water would take place. If, on the other hand, the capillaries were contracted, the secretion of urine would be diminished accordingly. Many sudden and temporary alterations in the circulation of the blood through the Malpighian bodies of the kidney undoubtedly depend upon an influence exerted by the nervous system alone; but certain changes which are, unfortunately, of a more permanent character, are due to an altered action of the secreting cells. The rapidity of the circulation in the Malpighian body will be greatly influenced by the rate at which the blood traverses the capillaries around the uriniferous tubes; the flow of blood in these vessels being governed by the attractive force exerted by the cells within the tubes for the urinary constituents dissolved in the concentrated blood. Now if, from any cause, the action of the secreting cells became impaired, and they ceased for a time to exert their attraction for the constituents they ought to separate from the venous blood, a retardation to the circulation in these capillaries would result. This would affect backwards, as it were, the capillaries of the Malpighian tuft, in which the blood, urged on through the arteries, would tend to accumulate. Their thin walls, being much stretched, would not resist the passage of other constituents of the blood; albumen and extractive matters would pass into the tube, and escape in the urine. Supposing this state of things to go on, the pressure on the Malpighian capillaries must necessarily increase; and these capillaries, distended to their utmost, and their walls stretched to the last degree, would at length burst, and all the constituents of the blood, including the blood-corpuscles, would pass into the tube, and would escape with the urine. The density of the walls of the Malpighian capillaries, which permits the escape of water in health, will favour the escape of other constituents of the blood, and increase their chance of rupture in disease, if they be exposed to increased pressure; but the collateral circulation above referred to in some measure counteracts such a result.

Professor Virchow has lately arrived at the conclusion that albumen and other constituents of the blood more frequently escape from the straight vessels of the pyramids than from those of the Malpighian bodies. In the former case, the constituents of the blood would have to pass through the walls of the tubes, as well as through those of the capillaries; while surely, if this were the seat of the mischief, we ought to find an œdematous condition of the kidney, and blood effused between the tubes more frequently than is the case. It seems to me that, before such a lesion was possible, the Malpighian capillaries must have become much thickened and altered in structure. In many chronic cases, as has been shown by Dr. Johnson, the Malpighian arteries become enormously thickened; and I have often observed the capillaries of the Malpighian body in a like condition; so that the permeability of their walls must be very greatly diminished.

In many cases of congestion, and in inflammation of the kidney, a spontaneously coagulable material is effused into the tubes, and coagulates there, forming a *cast or mould of the tube*, which is gradually washed out by the fluid which is secreted behind it, and thus it finds its way into the urine, from which it may be easily separated for examination.

Casts. A cast is composed of a coagulable material which is effused into the uriniferous tube; and, becoming solid there, it entangles in its meshes any structures which may be in the tube at the time, and forms a mould of the uriniferous tube. The characters vary very much in different cases, according to the state of the tubes and the part in which the effusion of the matter takes place. Various substances are often entangled in the cast; and, by observing the character of these, we are often enabled to ascertain the nature of morbid changes going on in tubes at the time the cast was being formed. Great difference of opinion has been expressed with reference to the nature of the material of which the cast is composed. By some it has been termed fibrine; but the striated appearance always present in coagula of this substance is not found in the cast. Others

have considered the cast was composed of albumen; but it is not rendered opaque by means of those reagents which produce precipitates in albuminous solutions. Not more than five years since, it was stated by two observers in France and Germany of high reputation, at least in other branches of scientific inquiry, that the cast really consisted of the basement membrane of the uriniferous tube. How such a statement could be made by any one possessing even a slight knowledge of the anatomy of tissues, it is difficult to conceive.

The transparent material probably consists of a peculiar modification of an albuminous matter possessing somewhat the same characters as the walls of some epithelial cells, the elastic laminæ of the cornea, the walls of hydatid cysts, etc. I think it not improbable that these casts of the uriniferous tubes may really be composed of the material which, in health, becomes converted into epithelial cells. In disease, this substance, perhaps somewhat altered, passes into the uriniferous tubes, and coagulates there. If this be so, the formation of the cast must result from depraved nutrition, and the material must pass into the tube from the intertubular capillaries—an idea which receives some support from the fact that occasionally casts are formed although no albumen passes into the urine. According to this notion, it is possible that a cast might be formed quite independently of any congestion or morbid condition of the Malpighian tuft; but, as a general rule, there can be no doubt that serum escapes as well as the coagulable matter, and albumen is found in the urine.

The diameter and general character of the cast will be determined by the state of the uriniferous tube at the time of its formation, as the researches of Dr. Johnson have indisputably proved. If the epithelium be abnormally adherent, the cast will be very narrow; if, on the other hand, the epithelium be removed, it will be of the width of the tube. Should the epithelium be disintegrating, the cast will afford evidence of the change. If in a state of fatty degeneration, fat-cells will be entangled in it. In hæmorrhage from any part of the secreting structure, blood-corpuscles are present; and, when suppuration occurs, the cast contains pus-corpuscles. When the transudation of the coagulable material occurs in a tube to which the epithelium is intimately adherent, or in a tube whose walls are smooth, the cast will be clear and perfectly transparent. The import of all these different characters is fully discussed in the works of Dr. Johnson; and several interesting cases, under observation for a considerable period of time, will be found reported in Dr. Basham's work.

When discussing the different urinary deposits, we shall have to consider those forms of casts which are most frequently met with.

Professor Virchow thinks that casts are very constantly, if not certainly, formed in the straight portion of the uriniferous tubes; but you will, I think, feel satisfied that many of the facts we have been considering strongly militate against this idea. In morbid specimens, it is very common to see the casts in the tubes of the cortex. Moreover, as I have demonstrated in several cases, the cast receives successive layers upon its outer surface, as it passes down the tube (*Illustrations*, Plates XIV and XVI). In Fig. 22, portions of casts from the convoluted portion of the tubes are seen imbedded in transparent material, which has undoubtedly coagulated in the straight part of the tube. We may, therefore, conclude that much may be learned with regard to the nature of the morbid changes going on in

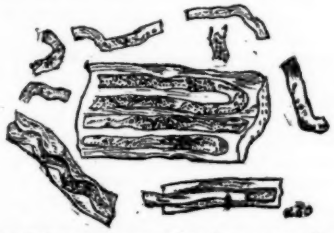

Fig. 22.—Casts of the uriniferous tubes from a case of acute suppurative nephritis. Casts found in the convoluted part of the tube are seen imbedded in material which has coagulated in the straight portion. Magnified 50 diameters.

the secreting part of the uriniferous tube by a careful examination of the characters of the cast, as there can be no doubt that casts are generally formed in the convoluted portion of the tube, although, in certain cases, the coagulable matter may be effused in the straight portion also, in which case the diameter of the cast will be very much greater.

[*To be continued.*]

Illustrations OF HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

LIVERPOOL NORTHERN HOSPITAL.

CASES OF ACUTE DISEASE OF THE CHEST.

Under the care of A. T. H. WATERS, M.R.C.P., Physician to the Hospital.

[*From Notes by* MR. JACKSON, *Clinical Clerk.*]

[*Continued from page* 455.]

CASE VI. *Pneumonia of the Left Lung: Recovery.* John Walan, aged 26, a strong stout healthy labourer, was admitted into the Hospital on June 8th, 1860. He had been quite well up to June 5th, and had been at work on that day. In the afternoon, he was attacked with "stitch" in the side and rigors, so as to be obliged to give up his work; during the night he had frequent vomiting, with pain in the side, dyspnœa, and feverishness. He had kept his bed from the time of the attack, but had had no sleep. No treatment had been adopted.

When admitted, he complained of dyspnœa, pain in the epigastrium and left side, increased on inspiration; the face was flushed, skin hot, tongue furred. The pulse was strong and full, 92. Respirations 36. There was deficient movement on the left side of the chest, with dulness, bronchial breathing, and crepitation over the lower half of the left lung behind, and extending forwards into the axilla. The breath-sounds and percussion were good over the right lung, and the anterior and upper part of the left. He was ordered to take a fourth part of the following mixture every four hours:—

℞ Antimon. potassio-tartratis gr. iij; liquoris ammoniæ acetatis ʒij; aquæ ad ʒvj.

Three grains of calomel and one of opium were given at bedtime. Low diet and beef-tea were ordered.

June 9th. He had slept; there was less pain and dyspnœa. He had expectorated small quantities of rust-coloured sputum. The skin was moist; the pulse had fallen below 70; the respirations were 24. The auscultatory signs were about the same, except that the crepitation was more distinct.

June 11th. The pulse was 60. The dulness was less, and the extent of crepitation had diminished. He was almost entirely free from pain. The mixture was omitted, and a small blister applied to the affected side. Chop diet was ordered.

June 14th. Crepitation could only be heard at the end of a deep inspiration at the extreme base of the lung. Respirations 20.

June 19th. The breath-sounds were normal all over the lung. He expressed himself as quite well, and was discharged.

CASE VII. *Pleuropneumonia of the Left Side: Recovery.* Charles Holmes, aged 32, a fireman on board ship, of fair muscular development and moderately stout, was admitted into Hospital on June 4th, 1860. He had been quite well, and had done his work up to the morning of June 1st. On that day, he had rigors, which were followed on the succeeding day by sharp pain in the left side, and cough. There had been no expectoration; he had undergone no treatment.

When admitted, he complained of acute pain in the left side, increased on inspiration; he could not lie on the affected side. There was deficient movement of the left side of the chest. The respiration was hurried. Pulse 88. There was dulness over the back of the left lung, extending up to the spine of the scapula, with absence of respiratory sounds at the extreme base, and distinct bronchial breathing and bronchophony higher up. The percussion and breath-sounds over the right lung and anterior part of left were normal.

He was ordered three grains of calomel and a grain and a half of opium at bedtime, with liquor ammoniæ acetatis mixture and five grains of nitre every four hours; and strong beef-tea for diet.

June 5th. The general symptoms and physical signs were about the same, but the pain in the side was more severe. Eight leeches were ordered to the seat of pain, and an eighth of a grain of antimony was added to each dose of the mixture.

June 6th. The pulse was 76; the pain less; he had been much relieved by the leeches. The dulness was less marked

at the lower part of the lung; friction-sound was heard towards the front, and bronchial breathing down to the extreme base.

June 8th. He complained of little pain. The dulness and bronchial breathing still remained. He had expectorated some very adhesive sputum. He was ordered to take the mixture three times a day; to have a blister to the left side; and to take ordinary diet, and four ounces of wine daily.

June 9th. The antimonial was omitted, and a mixture with ammonia and squills substituted. He progressed steadily from day to day; and was discharged well on the 26th.

[*To be continued.*]

Original Communications.

SCROFULOUS DISEASES OF THE EXTERNAL LYMPHATIC GLANDS:

THEIR NATURE, VARIETY, AND TREATMENT.

By P. C. Price, Esq., Surgeon to the Great Northern Hospital; the Metropolitan Infirmary for Scrofulous Children at Margate; etc.

Many disordered conditions, which involve the absorbent glands from infancy to advanced manhood, have been described by the majority of both ancient and modern writers as partaking of the nature and characters of scrofula.

In considering these so-called scrofulous affections, I shall attempt to classify them in such a way as to shew the utility of an arrangement, which more readily enables the practitioner not only to form a tolerably correct impression as to the nature of the diseased action, but to adopt a line of treatment best fitted to bring individual cases to a successful termination.

Before further approaching the consideration of a subject accompanied with some slight difficulty, it may perhaps be advisable to attempt to define the meaning of two sister terms, scrofulous and tuberculous, which are oftentimes of no very clear appreciation, and to inquire how close a relationship, so far as morbid conditions of the absorbent glands are concerned, exists between them.

At a very early period in the history of medicine, the terms χοιραδες, *scrofula*, and *struma*, were employed to designate certain enlarged and diseased conditions of the lymphatic glands, especially those situated in the region of the neck. As the study of disease advanced, and the pathology of morbid conditions of the system became better understood, the above terms acquired a more comprehensive signification. The extended views of many able observers, and particularly those of Wiseman, expounded over two hundred years ago, opened the eyes of practitioners to the importance of considering other diseases, not hither included, as partaking of the scrofulous type. Since this period, additional experience has more fully propounded the extended meaning of an appellation which, unfortunately, is compelled to be almost of hourly use and importance to those whose professional pursuits are carried on among both the rich and the poor of civilised nations.

In this country, scrofula or struma is very generally employed to signify, to use the words of a well known modern writer, "a state of constitution distinguished in some measure by peculiarities of appearance even during health, but much more by peculiar liability to certain diseases, including pulmonary phthisis." (Paget's *Lectures on Surgical Pathology.*) The chief of these diseases are various abnormal conditions of the lymphatic glands; of the skin; of cellular, mucous, and other tissues; of the bones, joints, synovial and other membranes; of various organs, such as the eye, liver, kidney, testicle, breast, etc.; and, indeed, of almost every tissue and organ which compose the body.

The chief pathological changes which ensue in these so-called scrofulous diseases are due to an abnormal tendency to admit a more or less modified process of inflammation, ulceration, and suppuration, influenced in kind and degree by peculiarities of constitution induced by certain artificial means, such as indifferent nourishment, bad ventilation, and various unwholesome influences, and capable of transmission from parents to offspring. But the term scrofula is, moreover, used (whether judiciously is a point for consideration) to include such affections, occurring in individuals who more or less plainly exhibit a certain unmistakeable diathesis, which consists in the deposition of a special morbid material termed *tubercle*.

The frequency with which tuberculous depositions are found constituting, or closely associating with, so-called scrofulous affections, is amply sufficient to show how very difficult it is always to define the exact meaning of scrofula or scrofulous diseases, without including those affections in which tubercle plays an important part.

Hence it must appear that, while scrofulous or strumous affections of various organs and tissues frequently consist in a development of tubercle, there are, nevertheless, numerous occasions in which, so far as observations extend, no such perceptible condition obtains; and, therefore, the term scrofulous must sometimes, if not always, be employed to include both tuberculous and certain non-tuberculous affections, and be generally accepted in that comprehensive way, which usage and the want of a more definite phraseology have assigned to it.

Nevertheless, attempts have been made to distinguish with greater accuracy those diseases which are strictly scrofulous, and those which depend on a special tuberculous deposition. M. Lebert has written fully and ably on this point, and endeavours to prove that such a distinction can in general be drawn, and applied with advantage to their appreciation and management.

Limiting the consideration of this important question to certain forms of so-called scrofulous disease of the absorbent glands, it will be seen how far consistent the observations now offered are with the results of practical experience.

The morbid alterations, both of structure and function, which the external absorbent lymphatic glands are prone to undergo in scrofulous constitutions, may, without regard to relative frequency, be classed under the following heads:—

I. Acute, Subacute, and Chronic Inflammation, or Lymphadenitis.

II. Chronic Enlargement, or Simple Hypertrophy of Structure, independent of Vascular Derangement.

III. True Tuberculous Alterations.

Before discussing, however, these various morbid conditions, it may be well to inquire to what extent the absorbent vessels, so intimately associated with the glands, are liable to be included in inflammatory and other disturbances apt to arise in a scrofulous habit of body.

It will be seen, when treating of the various diseased conditions to which the external absorbent glands are susceptible, that very acute inflammatory disturbance is, as a rule, an infrequent complication in strictly scrofulous habits. The same rule holds good as regards the absorbents; for they seldom exhibit well marked inflammatory excitement of an exalted type, although under lesions not strictly idiopathic considerable irritation, and inflammation itself, may obtain, even though the strumous diathesis be prominently portrayed.

In subacute or chronic forms of glandular enlargement, arising from systemic disturbance or local irritation, the connective lymphatics do not frequently show any marked sign of implication. In truly scrofulous and tuberculous diseases, the lymphatic tracts are, however, more often the seat of morbid alterations. Such affections are, it would appear, the result of absorption, and not of independent deposition; for, as a rule, the lymphatics situated in close relationship with a tuberculous gland, are more liable to be included in similar action than those more remote.

A scrofulous condition of the valves of the absorbents has been described, but has only been detected on a *post mortem* examination; so that, in all probability, its existence is fraught with little real danger or inconvenience. In the lacteal system of absorbents, however, scrofulous and tuberculous depositions are of very common occurrence; and their presence oftentimes seriously complicates, and, in a manner, causes an important and fatal disease—tabes mesenterica.

I.—Inflammatory Conditions of the External Lymphatic Glands in Scrofulous Subjects.

Acute Inflammation. It has already been observed that truly acute inflammation of the lymphatic glands in individuals possessing a scrofulous tendency is comparatively rare; although Wiseman and other experienced authors have related instances of its occurrence. Everyday experience, however, tends to prove that a more or less modified inflammatory action is very prone to invade the superficial absorbent glands; but such disturbance, as Hunter has clearly pointed out, is greatly controlled by the existence of a special diathesis. When acute inflammation does involve one or more portions of the external glandular system in scrofulous subjects, it may occur under two distinct conditions; either as an apparently idiopathic affection, or as a secondary or consecutive coincidence.

The glands most exposed to the invasion of more or less acute inflammatory disturbance, arising as a specific affection, are those which by situation are rendered susceptible to the action of certain agencies, as vicissitudes of temperature, injuries, etc., combined with an inherent disposition to functional and structural irregularities. Hence it is that the glands of the neck, face, and head, are much more frequently the seat, not only of simple inflammation, but of more complicated affections. What theory might suggest, is borne out by practice. More than two-thirds of the cases of idiopathic glandular inflammatory disturbance which I have seen, and from the statistics of which I now write, were confined strictly to those glands situated above the shoulders, and especially to those placed near the base and angle of the lower jaw, and consequently exposed to atmospheric and other injurious influences.

The subjects most ordinarily attacked, are young children, and infants of a delicate constitution, exhibiting at this early period, perhaps, no very decided scrofulous tendency save a general suspicious conformation. The first local symptom which attracts the attention of the mother or nurse to the existence of any mischief taking place, is a slight swelling, and perhaps heat and redness of the part, with tenderness to the touch. The swelling and pain, at first comparatively trivial, increase, and render the little patient extremely irritable. The constitution, probably already debilitated, and perchance associated with more manifest scrofulous disease, begins to suffer. The pulse quickens; more or less irritative fever succeeds; the tongue is furred; the bowels are costive; and the urine scanty, and saturated with lithates. It may be that the inflammatory action is confined to the gland; but, if the symptoms advance, it is more than probable that the cellular bed in which the gland reposes becomes affected, and at an early date shows evidence of implication. Should the vascular excitement not overstep the bounds of serous or fibrinous exudation, little local destruction will have resulted. The effused fluid is absorbed; and the lymph is either taken up, or becomes more or less consolidated and organised, giving to the gland an indurated appearance. But, as just observed, the irritation, commencing in the gland, is very apt to be extended to the cellular tissue in which it lies. Indeed, the liability of this loose surrounding structure to adopt the inflammatory tendency is so great, that often a very wholesale destruction takes place. The extension of the swelling and pain which usually accompany adenitis is, as a rule, principally owing to the inclusion of the tegumentary and cellular tissues.

The following woodcut, from a patient aged 15, under my care at the Hospital, well illustrates this condition.

Fig. 1.

Suppuration of a gland, the sequel of idiopathic inflammation in such subjects as now claim attention, is, I believe, of comparatively infrequent occurrence; and, although the formation of abscess results from such a condition, still it is not always situated in the proper glandular structure, but sometimes in the cellular tissue by which it is surrounded.

A recognition of this fact is essential; for, while suppuration of an absorbent gland is often a tedious and complicated process, that of the cellular tissue, especially when limited, is less serious, and more easy of management. There are cases, however, in which both the inflamed gland and its coverings are freely involved in inflammatory lesions, and readily pass on to suppuration.

Although, for the sake of illustration, the changes which obtain from acute inflammatory causes have been described as limited to a single gland, yet, as is well known, two, three, or even an entire chain or clump may be, either at the same time or in succession, involved. This is by no means unfrequently the case; for, owing to the conglomerate arrangement of the gland-clusters, especially about the neck and armpit, it is rare to find the mischief confined merely to a single member of a numerous community.

Secondary or Consecutive Inflammation. Acute inflammatory conditions of the lymphatic glands, occurring as secondary or dependent affections, are unusual. Such disturbance may, however, obtain from any direct lesion of neighbouring parts, and follow as a sequent of poisonous absorption. It is rare, however, in very scrofulous subjects, to find such condition result from irritation; and, even when it does occur, it is often found devoid of some essentials which constitute exalted inflammation. I have occasionally seen, in strictly scrofulous children, active inflammation of the absorbent glands, consequent on the occurrence of fevers and other debilitating influences: but, while a subacute or chronic form is very common, that of a more acute nature is much less general.

When such exalted inflammation attacks the absorbent glands, there exists little or no distinctive difference between it and that which obtains idiopathically, or apparently so, and consequently the foregoing observations are equally applicable. It must, however, be remembered that, when secondary acute inflammatory lesions of the lymphatic ganglia do obtain in scrofulous individuals, either as accompaniments or sequents of other diseases or injuries, they are more or less modified by the existence of the constitutional diathesis.

Recognition. The only affection which, I think, is liable to be confounded with acute inflammatory lesions of the external lymphatic glands, is limited inflammation of the cellular tissue. Some difficulty is often experienced in arriving at a correct appreciation on this point; and few surgeons of much experience will undertake to say, on numerous occasions, in which structure the primary mischief has commenced, when both the gland and its cellular bed are included in the inflammatory disturbance. As a rule, however, it is probable that when any swelling, heat, and tenderness exist in the tissues in the neighbourhood of absorbent glands, the original mischief commenced in one or more of the lymphatic organs; and should early attention have been directed to these alterations, a positive indication of the exact seat of lesion will be easily obtained. The affected gland or glands may be found enlarged, more or less globular in form, and semielastic to the touch, although the covering tissues be more or less swollen, puffy, and painful.

Besides the above local indications, there will exist considerable systemic derangement; and, perhaps, a more or less perfect history of an innate tendency to lymphatic disease may be established.

Pathological Changes. From whatever cause the lymphatic ganglia become acutely inflamed, the morbid changes which ensue are identical in kind, though modified in degree. Swelling, as previously stated, is the earliest symptom which directs attention. It is owing, it would appear, to a swollen condition of the gland itself, which results from more or less general increased vascularity, and the subsequent serous infiltration of its parenchymatous tissue. The nature of the exudation, however, which takes place, is dependent on the degree and extent to which the inflammation reaches. Should the gland be acutely inflamed, its areolar structure may not only become highly injected, but extravasated with blood. When the exudation is simply serous, it may be absorbed; and the local inflammation being reduced, the gland soon returns to its normal condition.

Should the effusion that takes place be fibrinous and plastic, the gland is apt to become more or less solidified; absorption may, however, entirely remove all trace of the plastic material; but, should such not occur, the gland remains more or less permanently indurated, with its functions, perhaps, only partially interfered with. The plastic exudation thus thrown out, however, is occasionally so extensive that the normal glandular substance becomes considerably atrophied or displaced, so that the true character of the affected organ is irretrievably destroyed. Lymphatic ganglia have been shewn to retain their

function, even when extensively involved in inflammation; and, although the tubular arrangement may be included in the general disturbance, still total destruction is not a frequent occurrence.

When inflammatory action has passed beyond the stages of serous and plastic exudation, it is apt to advance to suppuration. The formation of abscess necessarily involves, more or less, the integrity of the entire gland, and leads to its entire destruction.

The character of the purulent fluid is modified in accordance with the specific diathesis of the individual in whom it occurs. If the strumous habit be well marked, the pus will bear certain indications, which may at once distinguish it from that which obtains in abscesses occurring in constitutions not perceptibly tainted. Should the patient be delicate and of wasted powers, the secretion will often be found devoid of those characters which constitute thick and healthy pus. If the scrofulous habitus be prominent, mingled with the purulent matter will be found shreds of degenerated and withered lymph, more particularly to be described when adverting to more marked scrofulous suppuration of glands.

Although such outward changes as above alluded to may involve one or more glands, still, as before observed, it is seldom that the inflammatory mischief is limited to the glandular structure. The cellular bed in which the affected organ reposes, generally very early shows signs of implication. When the vascular excitement is not very extensive, the gland merely becomes glued to the cellular structure by which it is surrounded; but, if the inflammatory process proceeds, the formation of pus may lead to a definite secreting surface being established. The great tendency exhibited by the cellular tissue, so intimately associated with an affected gland, to partake in the vascular derangement, has been well illustrated by Mr. Goodlad, in an able treatise published many years since (*On the Diseases of the Absorbent System, etc.*, 1814).

[*To be continued.*]

Transactions of Branches.

LANCASHIRE AND CHESHIRE BRANCH.

PRESIDENT'S ADDRESS.

By M. A. Eason Wilkinson, M.D., Manchester.

[*Delivered June 28th*, 1860.]

It has been usual, I believe, on similar occasions to this, to give a retrospective glance at the discoveries and improvements in medical science which have taken place during the past year. As this work is so ably and so admirably performed by the medical literature of the day, I shall spare you the pain of any feebler essay in this department.

To one great movement, pregnant either with good or evil, which is now going on, I would for a few moments earnestly direct your attention. Should the remarks which I make appear distasteful to some and inconclusive to others, I hope that all who hear me will do me the justice to believe that I hold my opinions in all good faith and in the sincere wish that our profession may be permanently advantaged. The subject to which I refer, relates to the recent proceedings of the different medical corporate bodies of this country. I shall not enter upon the invidious task of questioning the wisdom or policy of such bodies granting degrees or licences to practise after but slight examinations, and without the necessity of a university curriculum; as I am quite willing to believe that all who have availed themselves of the privilege, could most creditably have passed through a far more trying ordeal. I leave it for time to show whether this merging of distinctions of rank in our profession will be as productive of good as you will, I am sure, most anxiously desire. It is to another phase of this great question that I would turn your attention.

Connected, as I am, with one of the largest provincial hospitals in the kingdom, and being brought so immediately in contact with the rising generation of medical men, I naturally feel an interest in their education. I cannot avoid thinking that for the masses there is too great a tendency to fix the standard of *book-learning* too high. I feel that in consequence thereof, hospital attendance is far too much neglected for the class-room.

The present plan would be all very well if the licensing bodies had simply to legislate for the larger towns or for refined and literary society. But, gentlemen, our villages, rural and commercial, must surely not be forgotten; and if a medical student require that high finish and polish of education, I for one am convinced that a residence as practitioner in such villages, would for such requirement be simply intolerable. If this very enlarged literary education be *absolutely necessary* for a medical man, then by all means let us have it; but it may possibly be thought by some that experience teaches us otherwise. Many very illustrious medical men of England have known no language beyond their vernacular tongue, and have possessed few attainments beyond that of a knowledge of their profession. Gentlemen, I am very far from advocating an imperfect education. All I want is this, that the licensing bodies should take into consideration that the whole of the United Kingdom is to be supplied with medical men, and not simply the larger towns; and that, as we have done away by legislation with the evils of unlicensed practice, the greatest care should be taken that the poor are not neglected nor oppressed.

I cannot but think that if we had gradations of rank made dependent upon ordeals of varying grades of severity, the evil which I foresee would be avoided. I am sure you will all bear witness to this fact, at least, that in the provinces we find medical men of the older school possessing an energy of character, an acumen of intellect, a nice diagnostic discrimination, a promptness of action, and an indomitable perseverance, which, I think, we can hardly expect to find surpassed by a race of practitioners of more literary attainments.

Standing, as I do, in that city where provincial medical education took its rise, and a cotemporary too with those who originated the scheme, some of whom are still amongst us, I naturally enough revert in thought to this most important subject. Not being myself directly connected with a provincial school, I feel that I can without indelicacy express this my firm conviction, that whatever evils may be incident to such schools, they are not so great as those attached to the old system of centralisation of education in the metropolises, where there was no collegiate system, and where students were left exclusively to themselves. I will not press this question at any greater length on your notice, gentlemen; but knowing the large influence which you collectively have, I could not let the opportunity escape of adverting to a subject which has such important bearings.

I could wish that our profession might have honours for those who are candidates for literary as well as for professional fame; but I think there is an evil in making the standard of book-learning too high for the general profession; and I cannot help fearing, from what I have myself witnessed, that the higher you raise the book standard for the whole of the profession, the more you exclude the student from the hospital, the less practical you make the medical man.

Although it may seem a little beside my purpose, I cannot refrain from expressing this my fervent wish, that every large town in England possessed so noble an institution as that of Owen's College in Manchester, where subjects of the greatest importance are most efficiently taught by most learned men. It is a regret to me that that institution is not brought into closer relationship with the medical profession in this district; and I would earnestly press, and I would do all in my power, to induce medical students to avail themselves of the advantages it so largely affords.

I am glad to find that at Cambridge there is a scheme devised, and at present carried on, which I think will be productive of great good to all such as claim to be candidates for literary as well as for professional fame. In days gone by, the academic course of the Cambridge University almost precluded the possibility of a general practitioner availing himself of its advantages, partly owing to the length of time required, and partly owing to the incidental expenses.

The pages of the Journal have lately made you acquainted with the proposed establishment of a medical hostel by Dr. Humphry of Cambridge. This scheme, I feel persuaded, is calculated to exercise a most important influence upon the future of our profession. The educational requirements of the University, the College of Surgeons, and the Apothecaries' Society, will thus to a considerable extent be harmonised, and that, too, without involving any loss of time or much additional expense to the student. And surely the opportunities thus afforded him of competition for university honours and prizes, and his association with members of the various classes of society who resort to the university, must result in his mind receiving a certain amount of that training in exact science

which is so admirable a preparation for purely medical study. The following is then the plan of the above scheme. The candidate for the M.B. degree will be required to reside the greater part of three years, devoting the first half of this period perhaps to classics, mathematics, and natural philosophy; after which, the previous examination must be passed. It will then be optional with him either to proceed to a degree in arts, or to enter at once on the study of medicine, for which, although ample opportunities are provided by the university in certain branches of medical science, he will be encouraged, if not obliged to resort to some other school, either in the metropolis or in the provinces, for the perfecting of his professional education.

A careful consideration of the above scheme, which I have thus briefly sketched, involving, as it appears to me, no greater sacrifice of time or expense than what is already incident to the requirements of our several examining boards, must commend itself to our favourable notice; and whilst enlarging the sphere of the student's general acquirements, it will powerfully contribute towards the establishment of that closer relation which, as Dr. Humphry observes, ought to exist between the university and the medical profession.

I hope I have not been misunderstood. I will not, however, further trespass on your time. I cannot conclude without thanking you for the attention you have given me, and without assuring you again that I feel very sensibly the honour you have conferred upon me.

EAST ANGLIAN BRANCH.

INTESTINAL PERFORATION OPENING IN THE RIGHT ILIO-LUMBAR REGION.

By C. M. DURRANT, M.D., Physician to the East Suffolk and Ipswich Hospital.

[*Read at Newmarket, June 21st.*]

MR. ——, aged 45, a custom-house clerk, stated that he had enjoyed good health until, having been engaged measuring some timber, which compelled him for some time to assume a stooping posture, he was seized with violent pain across the lower part of the abdomen. This continued for some hours, and became so severe that it was impossible to remove him to his home. Under treatment, the pain was relieved; and his surgeon, Mr. Pitcher of Ipswich, informed me that his case then assumed the form of bilious derangement with fever. These symptoms were accompanied by obstinate constipation, but he was now free from pain. By the persistent use of purgatives, an enormous amount of fæcal accumulation was said to have been removed.

About three weeks after the commencement of the attack, which occurred in August last, I was requested to visit him in consultation. He was then in bed; the countenance was pallid; the abdomen somewhat distended; he had some pain on pressure, particularly over the right flank, where there had been, it was said, considerable swelling, but which had subsided on the discharge *per anum* of a coagulum of blood of the size and shape of a kidney. His tongue was clean, and appetite tolerably good; and the pulse under 80, of fair strength. Some salines and alteratives were given, and the tincture of iodine was directed to be applied to a somewhat irregular and undefined swelling in the right iliac region.

The symptoms subsiding, as well as the swelling, I did not see him again for three weeks, when I was requested to visit him in consequence (as it was reported) of "his motions passing through his side". On calling upon him, I found that since my last visit, an abscess had formed and rapidly burst, and that a large quantity of fæcal matter was continually escaping through its aperture. So clearly did this obtain, that a portion of his dinner, having in part consisted of a pudding containing plums, the latter were seen in the act of passing through the abscess. The pulse was quiet, the tongue clean, and the constitutional disturbance very slight.

The abscess was poulticed with linseed meal; and opium was administered, with a view, if possible, to diminish the peristaltic action of the intestines. For a few days this plan appeared to answer, when an enormous discharge of fæces took place through the abscess; the bowels acting occasionally by the rectum.

He was now put upon cod-liver oil and quinine; and a sufficient dose of castor oil was directed to be taken every or every other morning, with a view to keep the bowels in a soluble state, and to insure, if possible, a daily evacuation by the natural passage. The stomach throughout retained its tone, the appetite continuing good; and there was a perfect immunity from sickness.

These symptoms continued without much variation for some weeks, the quantity of fæcal matter discharged from the side varying from time to time. A second abscess now formed, about four inches below the first, with which it communicated by a sinus, and from both of which fæces escaped.

These symptoms have more or less continued to the present time. He is now in good health, takes daily out-door exercise, and the discharge from the side is rather sanio-purulent than fæcal; occasionally, however, at the end of two or three weeks, fæcal matter makes its appearance, and continues to escape in small quantities for a day or two. The bowels are relieved by their natural passage daily. He takes no medicine, but keeps a persistent linseed meal poultice to the part, supported by as firm pressure with a belt as he can bear. The constitutional symptoms, never severe, have entirely disappeared; and the sinus, which will not admit a probe, looks inclined to heal, and is free from surrounding inflammation.

REMARKS. This case is interesting, inasmuch as it illustrates the great amount of local mischief that may result from an apparently very trivial exciting cause; and, on the other hand, the very small amount of constitutional irritation that may obtain, notwithstanding the existence of so very formidable a lesion as ulcerative perforation of the intestine. The most common cause of spontaneous artificial anus is a rupture of the intestine, either from a blow, or from sudden pressure or concussion, as from a fall from a height; or it may proceed from a perforating intestinal ulcer, the result of disease produced by foreign obstruction in the canal. In the above case, from the suddenness of the seizure, and the subsequent discharge of a hæmorrhagic clot, which had apparently been retained in the cæcum, I am disposed to think that rupture of the bowels to a slight extent must have been the exciting cause, more especially as these symptoms followed the constrained position which his occupation of measuring timber had obliged him to assume. There may, however, have been some circumscribed ulceration of the mucous membrane engendered by retained and irritating fæces, thus rendering the bowel more prone to rupture or perforation. Whatever may have been the immediately antecedent cause, it is evident that plastic exudation happily agglutinated the perforated bowel to the parietes, and thus prevented what would have otherwise probably terminated in fatal peritonitis from fæcal effusion into the abdominal cavity.

The case, as already stated, promises to terminate favourably; and the advance towards recovery is established, according to Rokitansky, in the following manner:—"The intestinal opening communicates, by means of a layer of organised lymph, with the external surface of the abdomen. The exudation gradually becomes distended, so as to form a hollow cord, which, to a certain extent, is lined by the mucous membrane of the perforated intestine; continued traction lengthens out the cord, its channel diminishes at the same time, and finally closes. The immediate consequence is the healing up of the external fistulous opening, and in the same manner cicatrisation of the intestinal orifice may be effected." (Rokitansky's *Pathological Anatomy*, vol. ii, p. 61, Sydenham Society.)

In the treatment of intestinal perforation, the exhibition of opium with a view to diminish peristaltic action, until the agglutination have taken place, is called for; subsequently (provided there be no obstruction in the bowel) the persistent use of castor oil, in order to prevent fæcal accumulation, will be advisable. At this period, an increased peristaltic action will tend to lengthen the cord formed by the agglutinating tissue, and thus facilitate the closing of the artificial canals, and the healing up of the external fistulous opening.

POPULATION STATISTICS. During the last fifteen years—that is to say, since 1845—9,178,621 births, 6,163,403 deaths, and 2,285,520 marriages have been officially registered in England and Wales. The population, which amounted to about 16,720,000 in 1845, was estimated at about 19,740,000 in 1859, being an increase of about 18·06 per cent., or 1·20 per cent. annually. This increase has taken place notwithstanding a considerable emigration and several wars of more or less magnitude. In France the population, notwithstanding a comparatively feeble emigration, has only increased in the same period from 3 to 4 per cent.

Reviews and Notices.

Reports in Operative Surgery. By Richard G. H. Butcher, Esq., M.R.I.A., Surgeon to Mercer's Hospital, Dublin, etc., etc. Series I, II, III, and IV. Dublin: McGlashan and Gill. 1860.

These are admirable contributions to practical surgery. They comprise, amongst others, the following important subjects:—Excision of the Knee-joint, of the Carpus, of the Elbow, and of the Upper and Lower Jaws; Syme's and Pirogoff's Operation at the Ankle-joint; and the Operative Measures necessary in Complicated Hare lip.

On the Excision of the Knee, Mr. Butcher's researches are so well known, that we content ourselves with noticing his introduction of Chassaignac's drainage-tube, with the view of facilitating the escape of the purulent secretions from a large abscess that formed at the back of the thigh in a patient of fifteen, on whom the operation had been performed about a month previously.

The use of this means of treating the large abscesses that so frequently occur after excisions is novel; and, from the little irritation which its presence excites, even when retained for several months, as well as from the complete emptying of the purulent sac which it daily effects, it would appear to be deserving of attention.

In Excision of the Elbow-joint, Mr. Butcher shews that a very large portion of the humerus, together with the extremities of the ulna and radius, may be removed, and yet the most perfect recovery of the use of the arm and hand retained. In one instance, as much as three inches and a quarter of bone were removed from the humerus only, and yet the fibro-ligamentous union between the severed articular extremities was of such a character, that every motion of the joint, with the exception of the power to entirely raise it upwards, was performed.

This enterprising surgeon, we are glad to see, deprecates the resorting to the severer operative measures in those diseases of the articulation that occur so frequently in infancy and childhood. In the knee, the subsequent want of growth in the limb subjected to operation must preclude the suggestion; whilst, in the joints of the upper extremity, there are so many circumstances in childhood which promise amendment, that most heartily do we concur with the author, when he writes—"No hasty removal of diseased joints in childhood."

On the subject of "Syme's Amputation at the Ankle-joint", scarcely enough evidence is adduced to warrant the conclusion arrived at, that the stump is unsuited to the "humble labourer." In the two cases adduced by Mr. Butcher in which he performed this operation, one became imbecile and never used her stump, though it was "perfectly formed" and sound; whilst the other, with recovery kept back by pyæmic symptoms, yet ended with the possession of a stump that was perfect in shape. Mr. Fergusson's unfavourable impressions of this proceeding, seem to have led Mr. Butcher to his conclusion more than his cases or his experience and knowledge of this particular operation. We express no more than our sincere conviction, based on a large acquaintance of the benefits conferred by this operation on all classes, when we affirm our belief that Mr. Butcher will yet see reason to modify the opinion he has formed.

We can do no more here than direct attention to the interesting series of cases of excision of large portions of the upper and lower jaws recorded by Mr. Butcher, which are well deserving the consideration of practical surgeons; passing on to notice probably the most important memoir of the whole, "On the Operative Measures necessary in Complicated Hare-lip."

When to operate in hare-lip, is yet a question anxiously made to the surgeon by many a distressed parent. Not a little uncertainty is still felt in giving a reply; and perhaps still more as to the best means of remedying the deformity. Four years since, Mr. Butcher published an essay on this subject (*Observations on the Operative Measures necessary in the Treatment of Hare-Lip.* Dublin: Hodges, Smith, and Co. 1856), the main features of which were, an advocacy of the benefits of early operation, and the use of scissors for paring the lips. In the present one, it will be seen that he does not deviate from the opinion he then formed as to the best age to be selected, as shewn by the annexed tabulated statement.

Table of Complicated Cases of Hare-Lip.

Cases.	Age when operated on.	Period at which needles removed.
4	14 days after birth	96 hours after operation
5	Ditto	Ditto
6	34 days after birth	Ditto
7	36 days after birth	Ditto
8	1 year, 6 months, and 5 days after birth	Ditto
9	2 mos. and 20 d. after birth	Ditto
10	3 yrs. and 5 days after birth	Ditto
11	3 mos. and 24 d. after birth	Ditto

The age then recommended is from the termination of the first week to the end of the third month. The use of the scissors is still believed to be superior to the bistoury.

The success which attended the operations performed in the eight cases above recorded, is certainly remarkable: only one requiring the subsequent introduction of a needle to repair a slight failure in the union. They were of the most formidable description, presenting all the difficulties belonging to wide clefts in the soft parts—projecting intermaxillary bones and gaping fissures in the palates. The long steel needle and the twisted suture were invariably used, and as invariably the needles were removed ninety-six hours after the operation.

In no case was chloroform administered; and in these operations it *never* should be. Small doses of opium were administered immediately after the operations, with the view of inducing that quiet so essential to success.

We heartily commend the perusal of these reports to all who are interested in the realisation of those rewards which belong to the successful prosecution of scientific surgery. Mr. Butcher's cases have the additional value of being reported in graceful and eloquent language; and we would especially suggest their consideration to the student in clinical surgery, who may learn everything from them that may enable him to become not only an accurate, but likewise an attractive, recorder of surgical disease. In all respects they maintain, and in many they add to, the reputation belonging to the Dublin School of Surgery.

On the Causes of Death of Many of the Animals in the Zoological Gardens, Regent's Park, from 1851 to Feb. 1860. By Edwards Crisp, M.D., F.Z.S., etc. Pp. 20. London: 1860.

This pamphlet is a reprint of a paper read by Dr. Crisp before the Zoological Society of London. The author is convinced that an examination of the morbid conditions of the organs of the lower animals, may both throw light on a knowledge of their functions, and also "that the nature of the diseases of man will not be thoroughly understood, nor appropriately treated, until the deviations from normal structure are fully investigated in plants and in the lowest grade of animals." Actuated by these opinions, he obtained, in 1851, permission from the Council of the Zoological Society to examine all animals dying at the Gardens—in other words, he caused himself to be appointed honorary pathologist to the institution: and now he gives us the results of his observations.

Dr. Crisp has made some interesting observations regarding the presence of tuberculosis in the lower animals. Having stated that, in seventy-five deaths among the quadrumana,

tubercle of the lungs was found in seventeen, and tubercle of the liver, spleen, and other parts, in five, he says:—

"The above deductions serve to correct a prevailing error, viz., that nearly all the *Quadrumana* in this country die from tubercles in the lungs. In five monkeys that I have recently examined no tubercles were present in any instance. It is true that disease of the lungs is the most frequent morbid change, and that consolidation of the pulmonary tissue from inflammation is generally the forerunner of tubercular deposit; but a great number, as the list shows, die from other causes. As might be expected, the diseases of this order resemble more those of man than any of the succeeding. In one instance the transmission of the tubercular diathesis was very marked. A female *Rhesus* monkey that I examined died of extensive tubercular deposit in the lungs and in other organs; she had borne five young ones: two of these which I inspected also died of tubercles in the lungs, and probably the others shared the same fate.

"As I shall have occasion to speak often of tubercle, I may as well at once point out the peculiarities of this deposit in the lower animals. Thus, large cavities, so common in the lungs of man, are but rarely met with in the brute, the extraneous matter having a more solid and cheese-like appearance. In birds the deposit is mostly hard and formed in concentric layers, differing materially from that which occurs in the human subject; it is often met with, too, on the surface of organs, in the shape of small nodules. This form of tubercle, I believe, is often of rapid formation, its structure being more albuminous than that of the other varieties. In reptiles it is generally softer and less circumscribed than in birds. Of all the chronic lesions to which foreign animals in confinement are exposed, this is by far the most frequent, although probably in their wild state it seldom occurs. I have examined the bodies of all the British quadrupeds and reptiles, and the greater number of the British birds, but, with two or three exceptions, they have been free from this disease." (Pp. 9-10.)

Progress of Medical Science:

AT HOME AND ABROAD.

PRACTICE OF MEDICINE AND PATHOLOGY.

THE ORIGIN AND DEVELOPMENT OF THE TRICHINA SPIRALIS IN MUSCLE.

AT the meeting of the Academy of Sciences in Paris, on July 2nd, a communication was read from M. VIRCHOW, detailing the history and results of some interesting experiments which he has been making on the origin and development of the *trichina spiralis* in the muscular tissue.

According to M. Virchow, when a rabbit is fed on meat containing trichinæ, the animal becomes emaciated in the course of three or four weeks; it loses strength, and dies five or six weeks after the ingestion of the food. On examining its muscles, they are found to contain myriads of trichinæ; and there can be no doubt that death has been the result of progressive muscular atrophy, consecutive on the migrations of the trichinæ into the system. In one of the experiments, M. Virchow witnessed the death of the animal. It was so weak that it could not raise itself, but lay on its side; from time to time, it was slightly convulsed; then the respiratory movements ceased, while the heart continued to beat regularly; at last, death took place, after several spasmodic movements.

In his experiments, M. Virchow has obtained five successive generations of the trichina. He first fed a rabbit with trichinæ from a human muscle; it died at the end of a month. He fed a second rabbit with the flesh of the former one; this also died in a month. With its flesh, he fed three others at the same time; two died in three weeks, and the third in a month. He gave a large quantity of the flesh of this to another rabbit, and a little to another; the latter died in eight days, but no morbid change could be discovered, beyond an intestinal catarrh; the former died in six weeks. In all the animals (except the last but one) all the striped muscles, except the heart, contained a very large number of trichinæ.

Carrying out his researches on the development of the trichinæ, M. Virchow has found that, a few hours after the ingestion of the diseased muscle, these parasites are found free in the stomach, from which they pass into the duodenum, and thence into the small intestine. On the third and fourth days, they are found to present distinct sexes—some containing spermatozoa, the other ova. Soon the ova are fecundated, and are developed, in the body of the mother trichina, into young entozoa. These are expelled through the vaginal orifice situated on the anterior half of the animal; and M. Virchow has found them, in the form of small *filariæ*, in the mesenteric glands, and in especially large number in the serous cavities, particularly the peritoneum and pericardium. They had, to all appearance, traversed the intestinal walls, probably by penetrating into the epithelial cells of the intestine. M. Virchow has never found them in the blood nor in the circulating passages.

Continuing their migrations, the trichinæ penetrate into the interior of the primitive muscular fasciculi; where, in three weeks, they have not only become numerous, but almost as large as those existing in the flesh with which the animal has been fed. To avoid error, M. Virchow has taken care, by removing a portion of muscle from the animal about to be experimented on, to ascertain that it was not previously infected with the parasite.

When the trichinæ have passed into the muscular tissue, M. Virchow says, this undergoes atrophy behind them; around them, irritation is set up, and from the fifth week they begin to be encysted. The sarcolemma becomes thickened, and a more active formation of cellular material appears to be set up in the muscular fibre;—the cyst, in fact, may be regarded as a result of traumatic irritation.

In the dog, the trichinæ pass readily into the intestines, but do not enter the muscles.

In the patient from whose body M. Virchow derived the muscular tissue for commencing his experiments, the phenomena attending death were precisely similar to those which were noticed in the rabbits on which his experiments were performed. The *post mortem* examination revealed no other lesion than the presence of innumerable trichinæ in the muscles; but neither here nor in the rabbits were they visible to the naked eye. It is plain, then, that there may be cases of death from trichinal infection in which the presence of the parasites can only be recognised by the microscope. In those cases in which trichinæ have already been found in the human subject, it would seem not only that they had undergone encystment, but the cyst had for the most part reached an advanced degree of calcification. But, as the cysts do not commence to be formed until from the fourth to the sixth week, and the cretifaction probably after some months, it is probable that, where they have been found in man, a kind of spontaneous cure has been set up, and the symptoms attending the trichinal infection, having occurred long previously, have been overlooked or forgotten.

On making inquiry into the history of the woman whose body had supplied M. Virchow with the trichinæ, he learned from Professor Zeneker of Dresden, whose patient she had been, that, four weeks before her admission into the hospital there, she had partaken of some pork containing trichinæ. The butcher who killed the pig also partook of its flesh, together with several other persons; and all had more or less severe rheumatic and typhoid symptoms; but the woman alone died. (*Gazette Medicale de Paris*, July 14th, 1860.)

These observations of M. Virchow are of great interest both in their bearings on the pathology and the hygiene of an obscure affection.

It does not appear that pathologists, in examining the condition of the muscles in persons who have died of progressive muscular atrophy, have found trichinæ in them; at least Dr. Roberts, who has well epitomised our knowledge of the subject in his work on *Wasting Palsy*, makes no mention of this. M. Virchow's researches, however, decidedly point to the fact that the presence of these parasites is, in a certain number of cases at least, the cause of the morbid phenomena; but whether the ingestion of trichinæ, and their development in the muscular tissues, is to be regarded as *the* cause of wasting palsy—even in those cases where the attack is general rather than local—is a question which requires further examination before it can be decided. In M. Zeneker's patient, death occurred in a few weeks after eating the diseased meat; while, in wasting palsy as described by previous writers, the course of the disease is ordinarily protracted through months and years. If a large proportion of the ordinarily observed cases of wasting palsy be really dependent on trichinal infection of the muscles, one of two things must occur; either the trichinæ must be capable of reproduction within the muscular tissue—which is not likely;

or they must induce a permanently diseased state of nutrition of the muscles. Putting, however, speculation aside, we would place the matter for inquiry before pathologists. In a case of death from wasting palsy or progressive muscular atrophy, the muscles should be most carefully examined for trichinæ—not in single points alone, but in various parts of the course of each muscle. Virchow intimates, that the trichinæ in their course leave an atrophic state behind them.

In their hygienic bearings, these researches of M. Virchow belong to the same class as those which have rendered famous the names of Küchenmeister, Von Siebold, and other investigators of the origin and development of the parasitic entozoa. Here, as in the case of the cystic and cestoid worms, the presence of the parasites has been traced to the use of diseased food, and here also, as in numerous other cases, the pig has been found to be the animal at fault. According to M. Virchow, the tenacity of life of the trichinæ is great; well-smoked hams, however, kept for some time before being eaten, have no injurious properties, even though they contain these parasites.

British Medical Journal.

SATURDAY, JULY 21st, 1860.

THE INTERNATIONAL STATISTICAL CONGRESS.

Young medical men should watch with deep interest the progress of this Society; for, if we mistake not, it is calculated at some future time to confer great benefits upon medicine. Nowhere is there wanted a more rigid adherence to what Dr. Guy in his Croonian Lectures, now publishing in this Journal, terms the science of numbers, than in medicine. That science thoroughly carried out is alone capable, we believe, of clearly defining the true pattern of disease, and of sweeping away the multitudinous errors which now clog our art, in consequence of the lax manner in which a few cases are considered sufficient to transform assertions into facts. The progress of sanitary science, again, will receive an immense impetus in consequence of the discussions it will here undergo, and of the light it will receive from the principal *savans* of Europe.

This Congress has been established so short a time, that we are not surprised at finding few medical names contributing papers; but our champions are doughty ones. Dr. Sutherland on Wednesday propounded an uniform scheme of sanitary statistics, which was adopted; and Dr. Farr brought forward a paper, the materials for which he has been long occupied in collecting, on the Occupations of the People. He will also read a very interesting communication relative to the Diseases of Miners. The machinery at his disposal has enabled him to compile a vast number of facts relative to the subject; and we trust that this paper will only be an instalment of a long series of communications touching upon the diseases of special occupations. Dr. Guy has read a paper on Statistical Methods and Signs, which attracted much attention. Certain additions were proposed to be made, in the sanitary section, to the method of reporting Hospital Statistics contained in Miss Nightingale's paper.

"The proposals were thirteen in number, and referred to the following matters:—'Separating the record of "cases of disease" in hospital from the "persons" treated. The adoption of a uniform system of record of transfer of patients from the medical to the surgical side of a hospital; and *vice versâ*. Registering the date of attack as well as the date of admission of the patient. Weekly or monthly record of admissions, as well as annual summaries. The adoption of a system of registration for out-patients of hospitals and dispensaries. Recording the locality whence patients are received. Recording secondary diseases arising in hospital, and registering the deaths from secondary diseases, as well as from diseases for which the patients were admitted. The proportion of empty beds for the whole year, and for each season. The cost of each in and out patient, given under different heads. In hospitals supported by voluntary contributions, the number of in and out patients, and also the numbers of letters of recommendation given.' All the others were adopted, except that referring to the registration of deaths from secondary diseases, which was withdrawn for future consideration."

We trust the Congress will not separate without some medical man proposing a system of medical registration, which shall be applicable not only to our own hospitals, but to those abroad. If by any means we could manage to avail ourselves of the recorded experience of disease in the various European hospitals for one year only, without doubt a vast number of debatable points would be at once cleared up, and our insight into the true nature of disease would be greatly improved. As the Congress is still proceeding, we shall defer until next week any further remarks.

HOSPITAL EXTRAVAGANCE.

We took occasion in a leader a few weeks since, to draw attention to the shameful system of begging which now obtains with the greater number of metropolitan hospitals; and it appears that we happened to hit the right nail on the head, as we find that the *Times* has abstracted our article, entitled "Hospital Distress". In that article, we referred to St. George's Hospital as a glaring instance of profligate expenditure and of cringing supplication for increased means; the Board, almost at the same time, building an entirely new story and crying out for more alms to prevent old wards from being closed. This crowning act of folly, we are now told, is only a part of the system on which this charitable institution has been conducted for the last thirty years. Enormous sums have been from time to time bequeathed to it; but the governors, or rather the active clique who always manage these things, elected to live upon their capital instead of their income, and, in consequence, in place of possessing at this moment an endowment of £325,000, which we are assured they should have, had they only prudently funded their capital—a sum which would have lifted them above the necessity of annual appeals to the charitable—their income is now miserably below their expenditure. The principle on which they appear to have acted is similar to that adopted, we are sorry to say, by speculators in certain district churches. They outrun the constable, not unwittingly, like a harum-scarum youth, but with the deliberate purpose of creating such a condition of distress as shall compel the charitable to give. We are not disposed to think that St. George's is a solitary example, by any means, of this method of appealing to the pockets of the public; on the contrary, we cannot help thinking that the same style of management is but too common among similar institutions.

It is very observable, however, that the plan in the end tends to defeat itself. Notwithstanding that a very cornucopia of wealth has been showered upon this hospital, it is obliged to confess that its expenditure exceeds its income by £6,000 a year; and, what is worse, the very springs of charity appear to have been dried up in its wealthy neighbourhood, the richest

quarter of London (Belgravia) contributing only £780 *per annum* towards its funds; and we question if these subscriptions are not rather a tax on than a help to the institution. Those who know St. George's Hospital are fully aware that its inmates are principally the servants of the neighbourhood—plethoric butlers, fastidious ladies' maids, and cooks with gorged liver—the domestics of subscribers, who have passed them in in virtue of their subscriptions. It strikes us very forcibly that the expenses of these individuals whilst under treatment must be far more than the paltry £780; and that the hospital is the creditor, rather that the debtor, of wealthy Belgravia. But how is this profligate expenditure to be checked in future? How tie the hands of governors, who have the power, it appears, under the present regulations, of making ducks and drakes of donors' money? The remedy lies wholly with those who give. They should clearly state whether they desire that their bequests should be funded or not. If this were done, we have no doubt there would be a stop put upon the present exorbitant increase of bricks and mortar; true charity would be saved from the unjust strain to which it is at present subjected; and the voluntary system, which threatens to break down, would be restored to healthy and legitimate action.

THE WEEK.

THROUGH the kindness of M. Ollier, the members of the Metropolitan Counties Branch had an opportunity, on Tuesday last, of inspecting the preparations illustrating the results of his experiments on the periosteum. The preparations fully bore out the ideas derivable from his descriptions and drawings in the *Journal de la Physiologie*. It was very correctly observed by Dr. Brown-Séquard, who acted as interpreter for M. Ollier, that the real importance of the experiments will lie in their applicability to surgical practice. The endeavour to bring about the reproduction of bone in cases of removal, by taking care to preserve the periosteum, is not new; but still M. Ollier has by his experiments thoroughly demonstrated the attempt to be reasonable—certain diseased states, but not all, being of course excepted. If all that M. Ollier hopes can be carried out, a great advance in conservative surgery will be established. Once, if a part were diseased, the limb was removed; now, surgeons remove the diseased part alone, often leaving, however, a limb impaired in its proportions and powers, though more useful than none. But now they may have a reasonable hope, in many cases, not only of removing a diseased bone, but of leaving the parts in such a state as may lead to the restoration of the limb in a state nearly if not altogether approaching the normal condition. Indeed, several cases which have already been recorded by surgeons—some anterior to the date of M. Ollier's researches—point to the possibility of this; and we trust, now that attention is being drawn to the subject, every endeavour will be made by our operating surgeons to ascertain whether the great advance to which reference has been made cannot become an established feature in conservative surgery. To M. Ollier especially, who has lately received the appointment of surgeon to the great hospital of Lyons, the profession will anxiously look for practical demonstrations.

Mr. Thomas B. Anderson, one of the Vice-Presidents and the Manager of the Liverpool Northern Hospital, was yesterday week committed on a charge of forgery and embezzlement of the funds of the institution. The amount of his defalcations is stated to be altogether about £4000. It was stated in the prosecution before the borough magistrates, that the prisoner had taken advantage of his position to alter several of the accounts and the receipts for money which he stated he had paid on behalf of the institution, by adding numerals to the figures; and in one instance, by getting double receipts, the money having been already paid. The prisoner, it seemed, had carried on a very ingenious system of embezzlement for a considerable period. During this year alone, he had embezzled from £900 to £1000; and the trustees had reason to believe that he had been embezzling their money for several years past. That the defalcations were not discovered before, might be accounted for in this way: that only one auditor went to the institution at one time, and he took the cash-book while the prisoner took the bills, the auditor checking the latter off, as they appeared to be correct. The prisoner's duty was to collect the subscriptions and pay all the accounts, and then to make the entries in the cash-book. He received a salary of £100 a year. He is said to have hitherto occupied a high position in the town, and to have lived in good style. He had been connected with the hospital for twenty-five years, and great confidence seems to have been placed in him.

Association Intelligence.

ADMISSION OF MEMBERS, AND PAYMENT OF SUBSCRIPTIONS.

THE following are the Laws of the Association regarding the ADMISSION of MEMBERS, and the PAYMENT of their SUBSCRIPTIONS.

"*Admission of Members.* Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any *three* members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch."

"*Subscriptions.* The subscription to the Association shall be One Guinea annually; and each member, on paying his subscription, shall be entitled to receive the publications of the Association for the current year. The subscription shall date from the 1st January in each year, and shall be considered as due unless notice of withdrawal be given in writing to the Secretary on or before the 25th of December previous.

"If any member's subscription remain unpaid twelve months after it shall have become due, the publications of the Society shall be withheld from such member until his arrears be paid.

"The name of no member shall remain on the books of the Association, whose arrears extend over three years; but the omission of the name from the list of members shall not be deemed, either in honour or equity, to relieve any member from his liability for the subscriptions due for the period during which he has availed himself of the privileges of membership."

Either of the following modes of payment may be adopted:—

1. Payment by Post-Office Order to the Treasurer (Sir C. Hastings, M.D., Worcester), or to the undersigned.

2. Payment to the Secretary of the Branch to which the member belongs.

3. Members can also make their payments through the publisher of the BRITISH MEDICAL JOURNAL, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, W.C., by post-office order, payable at the Western Central District Office, High Holborn.

PHILIP H. WILLIAMS, M.D., *General Secretary.*

Worcester, July 1860.

BRITISH MEDICAL ASSOCIATION: ANNUAL MEETING.

The Twenty-Eighth Annual Meeting of the British Medical Association will be holden in Torquay, on Wednesday, Thursday, and Friday, the 1st, 2nd, and 3rd days of August.

President—James R. W. Vose, M.D., F.R.C.P., Liverpool.

President-elect—C. Radclyffe Hall, M.D., F.R.C.P.L. and E., Torquay.

The Meetings of the Association will take place in the Bath Saloon.

Wednesday, *August* 1*st*.

1 P.M. Meeting of Committee of Council at the Torquay Club.

2.30 P.M. Meeting of General Council of the Association at the Torquay Club.

7 P.M. First General Meeting of the Association in the Bath Saloon. The retiring President will make a few remarks. The new President will deliver an Address. The Report of Council will be presented, and other business transacted.

Thursday, *August* 2*nd*.

8.30 A.M. Public Breakfast at the Royal Hotel.

10 A.M. Meeting of the Members of the new Council.

11 A.M. Second General Meeting of Members. The Address in Medicine will be delivered by C. Barham, M.D., of Truro. Papers and Cases will be read. The Meeting will adjourn at One, and reassemble at Two.

2 P.M. The Report of the Benevolent Fund will be received, and Papers and Cases will be read. An Address in Ophthalmic Surgery will be delivered by W. J. Square, Esq., of Plymouth. The meeting will adjourn at Five.

8.30 P.M. *Soirée* at the Bath Saloon.

Friday, *August* 3*rd*.

11 A.M. Third General Meeting of Members. The Address in Surgery will be delivered by P. C. De la Garde, Esq., of Exeter. Papers and Cases will be read.

6 P.M. Dinner at the Victoria Rooms. Tickets One Guinea each.

Gentlemen intending to be present at the Dinner, are requested to send notice, as early as possible, to William Pollard, Jun., Esq., Park Crescent, Torquay.

Members are requested to enter, on arrival, their names and addresses in the Reception Room at the Torquay Club; where cards will be supplied which will secure admission to all the Proceedings, and contain such information as may be useful to those who are strangers to the town.

Members who wish for previous information may communicate with W. Pollard, Jun., Esq., Torquay.

It is particularly requested that all members who propose to read papers, will communicate with the General Secretary without delay. Papers are promised by Dr. Brown-Séquard; Dr. Woollaston; Dr. W. Budd; Dr. B. W. Richardson; Dr. W. O. Markham; Dr. J. C. Bucknill; and Dr. Edward Smith.

Among the principal Hotels, are—the Royal; the Queen's; the Commercial; the Union; the London Inn.

Philip H. Williams, M.D., *General Secretary*.

Worcester, July 3rd, 1860.

RAILWAY ARRANGEMENTS FOR THE ANNUAL MEETING AT TORQUAY.

The Bristol and Exeter, and the South Devon and Cornwall lines, will grant return tickets to and from Torquay, from any part of their lines, to hold good from the 1st to 4th of August.

Gentlemen near to any station on the Midland Railway, which extends as far north as Bradford, Derby, Sheffield, Nottingham, can take an excursion ticket for Torquay, which holds good for twenty-eight days, at about one fare and a little more. A book, giving useful information on excursion-tickets, may be obtained at any of the stations.

The London and South-Western will *probably* grant return tickets, to hold good for the week. Information on this, if obtained in time, shall be given next week.

Any gentleman requiring one of these special return tickets, must show his card, if required.

Should no notice appear in the Journal beforehand, gentlemen had better inquire at the London Terminus, both of the Great Western and the South-Western, before they take ordinary tickets, as a little difficulty has been raised, which may have been removed by the week of the meeting, although too late for publication in the Journal.

NORTH WALES BRANCH: ANNUAL MEETING.

The following resolution was accidentally omitted from the report last week:—

Representatives in the General Council. It was moved by Dr. Davis of Holywell, seconded by Dr. Roberts of St. Asaph, and unanimously agreed to—

"That T. T. Griffith, Esq., of Wrexham, and Dr. Hughes of Mold, be elected to represent this Branch in the General Council."

BATH AND BRISTOL BRANCH: ANNUAL MEETING.

The Annual Meeting of this Branch was held at the General Hospital, Bath, on July 12th; John Soden, Esq., President, in the Chair.

There were also present:—J. S. Bartrum, Esq. (Bath); J. Beddoe, M.D. (Clifton); E. Boult, Esq. (Bath); W. Budd, M.D. (Clifton); W. J. Church, Esq. (Bath); H. Clark, Esq. (Bristol); C. Coates, M.D. (Bath); C. Collins, Esq. (Chew Magna); J. G. Davey, M.D. (Northwoods); W. Davies, M.D. (Bath); R. W. Falconer, M.D. (Bath); R. S. Fowler, Esq. (Bath); E. L. Fox, M.D. (Bristol); J. M. Granville, Esq. (Bristol); C. Harper, Esq. (Batheaston); G. R. Hill, M.D. (Bath); J. C. Jennings, Esq. (Malmesbury); C. Leonard, Esq. (Bristol); F. Mason, Esq. (Bath); E. S. Mayor, Esq. (Bristol); D. Michael, Esq. (Bath); G. Norman, Esq. (Bath); G. S. Ogilvie, Esq. (Bedminster); H. Ormerod, Esq. (Bristol); H. H. Parry, Esq. (Bath); Geo. Plimmer, Esq. (Melksham); J. S. Soden, Esq. (Bath); J. K. Spender, Esq. (Bath); R. N. Stone, Esq. (Bath); J. G. Swayne, M.D. (Clifton); S. H. Swayne, Esq. (Bristol); Jas. Tunstall, M.D. (Bath).

The Secretary read the minutes of the last meeting, which were confirmed.

New Members. The following new members were then balloted for, and unanimously elected:—G. M. Swinhoe, Esq. (Swindon), and G. R. Hill, M.D. (Bath).

Dr. Davey, the retiring President, in a few appropriate words, resigned the Chair to John Soden, Esq., who delivered the inaugural address.

Report of the Council. Mr. Fowler, the Bath Secretary, read the following report:—

"Your Council have again much pleasure in being able to congratulate the members upon the continued prosperity which has attended the proceedings of the Branch during the past year; and, though the losses by resignation and removal have been numerous, they are happy to say that the number of associates is still on the increase.

"The attendance at the ordinary meetings has been most satisfactory. The subjects brought forward have been numerous and highly interesting, and the discussions have been well maintained. The following cases have been exhibited, and papers read:—1. Case of Lumbricus. By A. Prichard, Esq.—2. Case of Angina Pectoris. By F. Mason, Esq.—3. Disease of Femur. By E. Boult, Esq.—4. On Diphtheria. By W. Davies, M.D.—5. Case of Salivary Calculus. By W. Budd, M.D.—6. Exhibition of a series of Photographs illustrating the state of the Intestines in Typhoid Fever. By W. Budd, M.D.—7. Case of Injury to Brain. By W. M. Clarke, Esq.—8. Cases of Fever. By W. Davies, M.D.—9 to 11. Three cases of Traumatic Tetanus. By E. L. Fox, M.D., C. Harper, Esq., and J. Hinton, Esq.—12. Case of Tubal Gestation; and 13. Case of Phlebitis. By J. M. Granville, Esq.—14. Fibrous Tumour of Uterus. By J. G. Swayne, M.D.—15. Ovarian Abscess. By W. M. Clarke, Esq.—16. Hypodermic Action of Morphia. By J. K. Spender, Esq.—17. Disease of Suprarenal Capsules without Bronzed Skin. By E. Crossman, Esq. Most of the above have been sent to the Journal for publication.

"At the last anniversary, your Council congratulated the Branch, not only on the possession of a new Medical Act, but also on the important part the Association had taken in procuring it—an Act intended to protect not so much the profession, as the public from the inroads of ignorant pretenders.

They regret to say their expectations of its usefulness have not been realised.

"It behoves the profession to unite vigorously to strengthen the hands of the Medical Council, so that, by their aid, such changes may be effected in the Act as experience has shewn advisable.

"The successful operations of the Bristol Registration Association having been brought before the notice of the Branch in September last, it was resolved that the opinion of the profession in general should be obtained as to the advisability of forming a Registration Society for the district represented by this Branch of the Association.

"A large meeting was held at the Bristol Institution, on December 1st, with Dr. Symonds in the Chair, when it was resolved that the 'Bristol and Bath Medical Registration Association' should be formed. Dr. Symonds consented to become President; and more than one hundred members have joined it. Though no prosecution has taken place, still the existence of the Society has deterred many unqualified persons from the illegal assumption of medical titles.

"At the meeting in February, the attention of the Branch was drawn to the fact, that the College of Surgeons had admitted to its membership, by modified examination, persons unqualified by previous education. A very numerously-signed protest was addressed to the President and Council of the College, to which Mr. Belfour, the secretary, replied that, 'only three persons had been so admitted, after a searching examination, and that the last admission of the kind took place in December 1859."

"Mr. Green, the representative of the College, stated in the Medical Council, a few days since, that, 'the practice of examining candidates who had not gone through a full curriculum of study ceased on March 1st, and would not be renewed.'

"The Council would urge upon your notice the claims of the Medical Benevolent Fund and of the Royal Medical Benevolent College for your support. These kindred institutions still continue to flourish, and distribute a large amount of benefit among the more needy members of the profession, as well as to their widows and orphans.

"Your Council much regret that, from the pressure of other duties, your secretary, Mr. Leonard, desires to resign his official connection with the Branch. In laying his resignation before the Association, your Council take this opportunity of recording their sense of the value of his energetic services during the past seven years, and of his zealous endeavours to render the meetings of the Society as agreeable and instructive as possible.

"The members elected to fill the vacancies in the local Council are Messrs. Norman, Stone, Church, Parsons, Dr. Coates, for the Bath district; and Messrs. Clark, Collins, Godfrey, Mayor, for the Bristol district.

"The members of the Branch are called upon at this meeting to elect six representatives to the General Council of the Association for the ensuing year. The retiring members are Dr. Budd, Mr. Norman, Dr. Davies, Mr. Prichard, Dr. Davey, who are eligible for reelection.

"The financial statement appended to this report shows that the amount received by subscriptions, together with the balance in hand on July 1, 1859, amounted to £31 : 1. Fifteen pounds were voted at your last annual meeting towards liquidating the debt of the Association, which, added to £11 : 11 : 8, the expenses of the Branch during the past year, left a balance of £4 : 9 : 4 in the hands of your secretary on January 1st, 1860."

Mr. COLLINS proposed, Mr. MASON seconded, which was unanimously agreed to—

"That the report and financial statement now read be adopted."

Representatives in the General Council. The following gentlemen were then elected, by ballot, as representatives of the Branch to the General Council of the Association:—W. Budd, M.D.; A. Prichard, Esq.; G. Norman, Esq.; W. Davies, M.D.; J. G. Davey, M.D.; and C. Collins, Esq.

Votes of Thanks. Dr. DAVIES moved, and Dr. TUNSTALL seconded—

"That the best thanks of this Branch be tendered to Dr. Davey, for the able and courteous manner in which he has discharged his duties, as well as for the interest he has taken in promoting the welfare of the Branch."

Dr. FOX moved, and Mr. SWAYNE seconded—

"That the thanks of this Branch be given to the Council and honorary secretaries for their services during the year."

Dr. FOX, in alluding to Mr. Leonard, regretted that the Branch was losing his valuable services as secretary, but congratulated Mr. Leonard on the increase of his professional duties, both public and private, which had led him to resign, and hoped that the Branch might often in future have the benefit of his opinion and advice.

Both resolutions were unanimously adopted.

Appointment of Secretaries. Mr. BARTRUM proposed, and Dr. DAVIES seconded—

"That Mr. Fowler be reappointed Secretary for Bath."

Mr. LEONARD proposed Mr. H. Ormerod as Bristol Secretary. The motion was seconded by Mr. BOULT, and carried unanimously.

Vote of Thanks. It was proposed by Mr. BOULT, and carried by acclamation—

"That the thanks of this meeting be given to the President and Governors of the General Hospital, for kindly allowing the use of their board-room."

The members afterwards partook of an excellent dinner at the York House.

METROPOLITAN COUNTIES BRANCH: ANNUAL MEETING.

THE eighth Annual Meeting of the Metropolitan Counties Branch was held at the Crystal Palace, Sydenham, on Tuesday, July 17th, at 3 P.M. The Chair was taken by the retiring President, EDWARD W. MURPHY, M.D., who afterwards resigned it to his successor, JOHN BIRKETT, Esq.

There were also present:—G. Bottomley, Esq. (Croydon); C. E. Brown-Séquard, M.D., F.R.S.; W. Camps, M.D.; R. Dunn, Esq.; A. E. Durham, Esq.; H. Hanks, Esq.; A. Henry, M.D.; E. Lankester, M.D., F.R.S.; W. Martin, Esq. (Brighton); J. Millar, Esq.; W. Ogle, M.R.C.P.; J. Propert, Esq.; R. Quain, M.D.; E. Ray, Esq. (Dulwich); B. W. Richardson, M.D.; C. H. Rogers-Harrison, Esq.; C. H. F. Routh, M.D.; J. Seaton, M.D. (Sunbury); F. Sibson, M.D., F.R.S.; H. S. Smith, Esq.; J. Stanton, M.D.; A. P. Stewart, M.D.; J. Ward, Esq. (Epsom); T. O. Ward, M.D. (Winkfield); G. Webster, M.D. (Dulwich); A. Wynter, M.D.; and, as visitors, H. Lee, Esq.; W. R. Milner, Esq. (Wakefield); and M. Ollier (Lyons).

New Members. The following gentlemen, previously elected members of the British Medical Association, were elected members of the Branch:—George Bottomley, Esq. (Croydon); C. E. Brown-Séquard, M.D., F.R.S. (Wimpole Street); John Cockle, M.D. (Brook Street); Arthur E. Durham, Esq. (Trinity Square, Southwark); and P. C. Price, Esq. (Green Street).

Invitation to the Association to meet in London. Dr. QUAIN proposed the following resolutions, which were seconded by Dr. RICHARDSON, and unanimously carried, after several members had expressed their hearty concurrence:—

"That it is desirable that a meeting of the British Medical Association be held in London.

"That, as a great international exhibition will be held in London in the year 1862, and many of our provincial members will visit the metropolis on that occasion, it would seem that no more convenient period could be fixed on for holding a meeting in London.

"That a cordial invitation be forwarded from this Branch to the meeting at Torquay, inviting the Association to meet in London in the year 1862."

Report of the Council. Dr. STEWART, one of the Honorary Secretaries, read the following report:—

"The Council have but little to report regarding the proceedings of the Branch during the past year. In addition to the large number of members whose names were announced at the last annual meeting, twelve more have joined the Branch during the year, and twelve have retired and died, leaving at this date one hundred and nine members in connexion with the Branch.

"The Council are happy to state that, by strict economy, they have made considerable progress in discharging the liabilities of the Branch; and they trust that, before another anniversary, their successors will have a balance in hand to meet any emergencies.

"An important suggestion, thrown out in the address of the President of the South Midland Branch, induces the Council to publish, as they were drawn up two years ago, the recommendations of the Committee appointed by this Branch to consider the propriety of instituting a series of investigations into the action of medicines. They are as follows:—

"'1. It is proposed that a certain number of tables, according to forms subjoined, be printed and circulated in the JOURNAL; and that an additional number be left at the JOURNAL office, for any members of the profession who may require them.

"'2. That three questions be proposed for investigation during each year, to be selected by this Committee, who shall analyse, and report upon, all the returns made upon each question.

"'3. That the General Council be requested to offer a premium of not less value than £5, to be adjudicated to the best paper.

"'4. That three adjudicators be elected by the General Council.'

"While, therefore, this Council would strongly urge upon the General Council the propriety of offering medals or other premiums for the best original papers presented in the course of each year, they would submit for the consideration of their successors in office, whether, in the event of their having a balance in hand, they might not best secure the object for which the Committee was appointed in 1857, by offering a premium for the best series of investigations into the action of medicines on the animal economy.

"The one subject which has occupied the attention of the Council and of the Branch during the year, is that which is now, and has for some time been, discussed with more or less keenness throughout all the Branches of the Association; viz., the management of the JOURNAL. Repudiating the views of those who would abolish the JOURNAL, give up the attempt to influence the public and promote the general interests of the medical profession, and substitute for these great objects the attractions of more frequent social meetings, this Branch has urged upon the Committee of Council the necessity of devising means whereby the JOURNAL may be made a worthy representative and efficient helper of the Association, in seeking 'the promotion of medical science, and the maintenance of the honour and interests of the medical profession.' And, while of late a marked improvement has been observable in several departments of the JOURNAL, your Council are of opinion that it does not yet, either in power, in general interest, in variety, or in scientific value, approach the standard which the organ of so important a body as the British Medical Association ought to attain. They feel that a Journal professedly addressing itself, not to the juniors of the profession, but to 2,000 or 3,000 medical practitioners throughout the kingdom, should be the appropriate repository of original papers of the highest class; and of such, they are persuaded, a steady supply is capable of being furnished by the hearty cooperation of our many distinguished associates."

Dr. WEBSTER moved, Mr. BIRKETT seconded, and it was resolved—

"That the report now read be received and adopted."

Treasurer's Report. Dr. HENRY, one of the secretaries, in the absence of the Treasurer, read the report for the year, of which the following is an abstract:—Receipts from members' subscriptions, £22: 7: 9; expenditure £20: 8: 4; balance in hand, £1: 19: 5.

Dr. RICHARDSON moved, and Dr. WYNTER seconded—

"That the Treasurer's Report be received and adopted."

Election of Officers and Council. The voting lists having been sent round and collected, the following gentlemen were declared to be chosen the officers and council for the ensuing year:—*President*, John Birkett, Esq.; *President-elect*, B. W. Richardson, M.D; *Vice-President*, E. W. Murphy, A.M., M.D.; *Treasurer*, E. Lankester, M.D., F.R.S.; *Secretaries*, A. P. Stewart, M.D., and A. Henry, M.D.; *other Members of Council—for the Metropolitan Division*, W. Camps, M.D.; R. Dunn, Esq.; S. W. J. Merriman, M.D.; W. Ogle, M.R.C.P.; J. Propert, Esq.; C. H. F. Routh, M.D.; H. Hyde Salter, M.D., F.R.S.; E. Smith, M.D., F.R.S.;—*for the Extra-Metropolitan Division*, C. T. Carter, Esq. (Hadley); A. Cox, M.D. (Kingston-on-Thames); J. H. Paul, M.D. (Camberwell); and J. Seaton, M.D. (Sunbury).

The retiring President now resigned the chair to the newly-elected President, who briefly thanked the members for electing him, and expressed his resolution to do all in his power for the good of the Association and of the Branch.

Representatives in the General Council. The following members were chosen to represent the Branch in the General Council of the Association:—C. E. Brown-Séquard, M.D., F.R.S; E. Lankester, M.D., F.R.S.; B. W. Richardson, M.D.; C. H. F. Routh, M.D.; and J. Seaton, M.D.; with one of the secretaries.

Mode of Election of Officers. Mr. ROGERS-HARRISON moved—

"That it be suggested to the Council of the Branch that the election-lists of officers, etc., be sent round with the annual circulars; and that the election be by personal ballot."

Mr. SPENCER SMITH seconded the motion, which was carried.

M. Ollier's Experiments. M. OLLIER exhibited to the meeting the specimen of bone resulting from his experiments on the ossific function of the periosteum. The specimens were examined with much interest by the members present. Descriptions of them have already appeared in the JOURNAL for May 26th and June 9th. The thanks of the meeting were unanimously accorded to M. Ollier for his kindness in exhibiting the specimens.

Votes of Thanks. Mr. PROPERT moved, and Dr. LANKESTER seconded a vote of thanks to the late President, Dr. Murphy; which was unanimously agreed to, and acknowledged by Dr. Murphy.

Dr. WEBSTER proposed, and Dr. OGIER WARD seconded a vote of thanks to the Honorary Secretaries; which, having been passed, was acknowledged by Dr. Henry.

On the motion of Mr. ROGERS-HARRISON, seconded by Dr. RICHARDSON, thanks were unanimously voted to the President for his able conduct in the chair.

Dinner. About thirty members of the Branch, and visitors, dined together at 6 P.M. The chair was occupied by John Birkett, Esq., supported by J. Propert, Esq., E. Cock, Esq., Dr. Brown-Séquard, M. Ollier, etc. Dr. Stewart and Dr. Henry occupied the vice-chairs.

Reports of Societies.

EPIDEMIOLOGICAL SOCIETY.

MONDAY, JULY 2ND, 1860.

B. G. BABINGTON, M.D., F.R.S., President, in the Chair.

ON CHOLERA AMONG THE BRITISH TROOPS IN SCUTARI DURING NOVEMBER 1855. BY PATRICK FRASER, M.D.

THE outbreak of cholera with which this paper deals, is briefly alluded to in the Blue Book, "Of the Medical and Surgical History of the British Army which served in the East"; also by Drs. Lyons and Aitken.

The author did not enter into the vexed question of the contagious or non-contagious character of the disease; but infers that the first case, which occurred on the 20th of May, in the person of an Austrian sailor, was of spontaneous origin. He then traces the disease, as seen by tables which he exhibited, as gradually incubating until the 14th of November, when it burst forth with volcanic-like power, and attacked in the course of ten days 276 men, of whom 160 died. He adds, almost before the first panic had subsided, all cause for fear had ceased, the terrible visitor having disappeared.

Several statistical tables were given, illustrating different points, and to which suggested comments were appended. Among the tables were six concerned with meteorology for six months preceding the outbreak. The author observes that information upon meteorology, in connection with cholera morbus, becomes daily more important; and he throws out a hint that the British Army Medical Department might be made most available to this highly important purpose: for, even if the information were negative, it would still have a relative value.

The author drew special attention to these facts, as corroborating previously recorded observations.

1. The number of cases was larger, and also of greater virulence, among those men living under unfavourable sanitary conditions.

2. Unacclimatised men were most liable to be attacked.

3. A change of locality arrests the spread of the epidemic.

The pathology and treatment of the disease were not entered upon, save to observe that the chief morbid changes noticed were, a highly vascular state of the mucous and peritoneal surfaces of the small intestines, and a remarkable "repletion with a creamy substance of the minute glandular apparatus of the same intestine", which has been named by Drs. Lyon and Aitken "the sago appearance".

The opinions as to treatment may be seen in the reports of the staff surgeons on the station, "that all the ordinary remedies were tried, the only one observed to be of any use, and that only to alleviate the severity of the cramps, was the hot-air bath"; and says the Deputy Inspector-General, "I regret to be obliged to confess that on this occasion we have learned but little, if anything at all, either as to the origin, nature, or treatment of this most inscrutable and intractable scourge of the human race."

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

PHYSIOLOGICAL SUBSECTION.

THE following are abstracts of some of the papers read at the recent meeting in Oxford of the British Association.

ON THE THEORY OF CARDIAC INHIBITION. BY M. FOSTER, M.B.

Tetanisation (*i.e.* stimulation for a certain time by the interrupted galvanic current) of the pneumogastric nerves, in man and vertebrate animals, retards or arrests the rhythmic beat of the heart. Tetanisation of the heart itself quickens its rythmic beat. Hence has arisen the theory that, while the results of the latter method are to be regarded as the ordinary effects of the stimulus upon the heart, the increased rhythm being the increased action aroused by excitation, comparable with the contraction or series of contractions that follow upon the stimulation of an ordinary muscle, the contrary results of the former method should be interpreted by the supposition of a specific antagonistic energy, an "inhibitory" virtue, of the pneumogastric nerves. The study of the hearts of the invertebrata brings to light many objections, in addition to those which may be drawn from the vertebrata. In the common garden-snail, for instance, while no effect on the heart can be produced through the nervous system, all the phenomena of "inhibition" can be obtained by applying a current of appropriate strength directly to the cardiac tissue itself. That is to say, the heart's rhythm may thus be retarded or arrested without any muscular contraction being produced. In the common shore-crab the same result may occasionally be obtained; but most frequently in this animal the heart during inhibition does not remain perfectly quiet *in diastole*, but is engaged in a tumultuous, tremulous quivering. This quivering is coexistent with dilatation of the cavity, and may be shewn by proper variations in the strength of the current to consist of exceedingly small beats, occurring with an exceedingly rapid rhythm, and to be the transition stage between ordinary increased rapidity of rhythm and inhibitory stand-still. That is, the interrupted current, when applied directly to the crab's heart (and the same is true of vertebrate hearts), while increasing the rapidity of rhythm, lessens the force of each beat. Hence, with a certain strength of current, the beats are so rapid and so small that they can only be called quiverings, and, with a still stronger current, escape our senses altogether, and the heart is said to be at rest. But the transitions from one stage to another are exceedingly abrupt. It is almost, if not quite, impossible to obtain them in one animal, different stages predominating in different animals. Thus, ordinary quickening is the characteristic of the frog's heart; quivering, of the mammalian and crab's hearts; stand-still, of the snail's heart, and of the vertebrate heart when affected through the medium of the pneumogastric. The retardation (as distinguished from arrest of rhythm) in these two last cases is, like the succeeding reaction, the result of the initial stand-still. And there would be as much reason in supposing a peculiar energy of the muscles of the snail's heart, as in ascribing a special inhibitory virtue to the vertebrate pneumogastric nerves. The explanation of all these idiosyncrasies probably lies in the quantitative relations of stimuli, of which we are at present ignorant. It is a disputed point whether feeble currents, applied to the pneumogastric, increase the rhythm; certainly we cannot thus produce that marked quickening which the current applied directly to the heart causes; and, in the snail's heart, currents too weak to produce inhibition have no effect at all.

Both in the snail's and in the crab's heart, currents stronger than those which produce inhibition cause a *true tetanus* of the heart. But it is almost, if not quite, impossible to produce tetanus of the frog's heart by applying the current directly to it. In like manner, it is impossible to tetanise the heart by the medium of the pneumogastric nerve. If, however, we allow the positive results of the invertebrata to interpret the negative ones of the vertebrata, we may say that "inhibition" is the natural result of a stimulus strong enough to suspend the spontaneous rhythmic contractions of the heart, but too weak to act upon it as an ordinary muscle—to simulate it to that amalgamated series of contractions we call tetanus. And if we suppose (and there are reasons from many other sources for doing so) that the essential feature of a stimulus is that it is a disturbing force, and that the heart's rhythmic beat is but the expression of a higher irritability than that which gives muscles their contractility, the many difficulties of the subject are greatly cleared away.

ON THE DEGLUTITION OF ALIMENTARY FLUIDS. BY PROFESSOR J. H. CORBETT, M.D.

In this paper, the author endeavoured to prove that there are two distinct forms of deglutition; that, while the alimentary bolus is propelled with rapidity over the epiglottis, fluids can flow in two streams, one at each side of the epiglottis and of the aryteno-epiglottic folds, without the danger incidental to its passage over the central aperture of the larynx. This occurs in the infant and mammal during suction; it takes place in the sipping of fluids, swallowing of the saliva, and during drinking in a continuous draught. Ordinary drinking is accomplished by gentle muscular movements, which should not be confounded with the gulping of fluids. In gulping, the fluid is rapidly and forcibly propelled backwards, and this act somewhat resembles the deglutition of solids.

In experiments made by the author on the dead body, fluid poured upon the dorsum of the tongue passes backwards into the pharynx in two streams, through the grooved passages situated at each side of the epiglottis and aryteno-epiglottic folds.

In the living body, during the deglutition of fluids, the uvula fall forwards upon the tongue, in front of the epiglottis; and both the uvula and epiglottis afford protection to the respiratory apparatus. The fluid is divided by the uvula into two currents, which descend at each side, under the half-arches of the palate; that such is the principal use of the uvula. The anatomical arrangements in the human body are perfectly adequate for the transmission of fluid in this safe manner. The anatomy of the porpoise, in which the larynx rises in the form of a blow-tube for several inches above the level of the tongue, affords a strong confirmation of this view; which is further sustained by instances in which the epiglottis has been destroyed. The distinctness of the two forms of deglutition is also indicated by the fact that the mouth may be filled with food, and yet drink can be swallowed without displacement of the solid aliment.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, JULY 4TH, 1860.

EDWARD RIGBY, M.D., President, in the Chair.

ON SOME OF THE EXIGENCIES CONNECTED WITH PRETERNATURAL LABOUR. BY JOSEPH THOS. MITCHELL, F.R.C.S.E.

THE author commenced his paper by referring to the ill consequences which often follow the too strict adherence to the axiom in midwifery, that "meddlesome midwifery is bad." He alluded to cases that had come under his notice, in which the lives of some women had been placed in jeopardy, and the future comfort of others had been permanently destroyed; as well as to cases, in which children had been born dead, whose lives would most probably have been saved had early manual or instrumental aid been applied. He alluded to his strong objection to the use of the crotchet in cases of craniotomy, and his custom in such cases to rely alone on the craniotomy-forceps for delivering, and related a case that occurred in an extremely narrow pelvis, in which the practitioner obstinately refused to use the embryotomy-forceps, and would depend alone on the former instrument, by which he extensively lacerated the vagina, in consequence of its often slipping off from the head during the operation. The case terminated in the death of the woman, undelivered; the uterus having been ruptured, and the child having passed into the abdomen. In all probability, had the embryotomy-forceps been used, delivery would have been safely effected, as it had been on a former occasion. He next referred to the culpability which rests on every practitioner who undertakes to attend in her second or subsequent labour any woman, who had previously been delivered by embryotomy or by the forceps, when the child had been born dead, without inducing premature labour between the seventh and eighth, or at the eighth month of gestation, as the nature of such former labours might seem to indicate. He related a remarkable case in which a practitioner had neglected so to act, and the complicated difficulties which followed, requiring the dismemberment of a very large child at the full period of gestation. The abdomen and chest were eviscerated, and then the lower half of the body was removed at the fourth dorsal vertebra, by which alone room could be obtained to reach the arms and head. The patient did well. She afterwards came under the author's care, and was delivered safely at premature periods on four different occasions, twice with great difficulty at seven months and a half gestation, and subsequently twice at six months and a half,

on each occasion by inducing labour by puncturing the membranes. For this purpose he adopted a peculiar instrument, which he had found useful also in rupturing the membranes in cases of placenta prævia attended with extreme circumstances. The instrument was made by Messrs. Millikin and Lawley, of the Strand. In the relation of this case, the author stated that, on the occasion of the third labour, at seven months and a half gestation, when the head presented, delivery was effected by the forceps, and a child was born that lived fourteen hours; and on that of the fourth accouchement, at the same period, when the arm presented, the woman could not be delivered except by dismemberment of the child. From these circumstances he deduced the conclusion that it was not wise to adopt the modern recommendation of delivery by turning in cases of small pelvic brims, whenever delivery can be effected by the forceps, as by that means a far greater chance would exist of delivering a living child than when turning is adopted. By the latter mode, the protracted pressure unavoidably made on the funis as the head is passing through the brim, is almost certain to occasion the death of the child; and in cases also where delivery can be effected by craniotomy, it is accomplished with less distress to the mother than by turning. The author also referred to the fatal consequences to children which often follow doubtful or incorrect diagnosis of presentations in early labour, especially in cases where delivery can only be effected by turning, which he showed in the history of a case in which there was the presentation of the abdomen, with the child doubled up, the head resting on the sacrum, and the hips on the pubis. In this position the practitioner allowed the case to remain for nearly three hours, not knowing the character of the presentation and what it necessitated, the woman all this time suffering under violent expulsive labour, by which the child was killed; whereas, had turning been adopted at the commencement of this period, when it would have been a perfectly easy operation, the os uteri being then fully open, the child would, doubtless, have been born alive.

Dr. Priestley thought that the Society was much indebted to Mr. Mitchell for his practical paper, and he believed it would be very advantageous if other gentlemen would record their mistakes and occasional failures, instead of only relating their successful cases. He quite agreed with Mr. Mitchell in his denunciations against the crotchet, which he considered a most unsatisfactory instrument; and hence he very generally resorted to the use of the craniotomy-forceps in the place of it. He considered that Mr. Mitchell had increased the difficulty of delivery in one of the related cases, by amputating the lower half of the child's body, by which means he had deprived himself of the power of properly employing traction.

Dr. Rigby stated that the crotchet certainly did not fulfil the wishes of those who were obliged to employ it. This instrument was always apt to slip, and when it did so, there was great danger of its injuring the soft parts of the maternal passages, or the fingers of the practitioner.

Dr. Tanner mentioned, that in two cases of more than usual difficulty, he had found Dr. Oldham's small hook of great service in aiding delivery. He confirmed the remarks of the previous speakers with regard to the crotchet.

Dr. Waller said that his old teacher always alluded to the crotchet as an atrocious instrument. For his own part he never used it, except by passing it up outside the head; and then sometimes by fixing it in the orbit, he got a good and serviceable hold. He mentioned a case of great difficulty where he had used the craniotomy-forceps successfully, when the crotchet was quite useless.

Dr. Barnes did not rise to defend the crotchet, but still he had had more success with it than many other Fellows of the Society seemed to have had. In Dublin, the most eminent obstetricians use the crotchet, and with success. He had employed Dr. Oldham's hook, and found it answer very well. In Mr. Mitchell's paper there were so many topics treated of, that there was no difficulty in speaking upon some one point. He thought that the author was wrong in assuming that turning ought to be discarded in cases of contracted pelvis. He believed there were instances when the only resource was craniotomy or turning—the forceps could not be used: in these he had succeeded in safely effecting delivery, both for mother and child, by turning.

Appendix to Paper on Concealed Accidental Hæmorrhage. By J. Braxton Hicks, M.D., etc. This was an addition of eleven cases to the ten already described; the majority not having been published, the author was indebted to the gentlemen whose names were mentioned with each report. These cases, it was observed, might be concealed totally till death or the termination of labour, or temporarily for a longer or shorter time. During the non-appearance of hæmorrhage externally, the diagnosis of the case was as difficult as when wholly concealed. After reporting the cases, an analysis was given, showing that fifteen died and six recovered; and that it was much more fatal at full term than at any other period. The diagnostic symptoms were then pointed out—namely, 1, severe fainting or collapse; 2, the enlargement and doughy feel of the fundus uteri, the outline of the fœtus being lost, and very frequently a sensation as if about to burst; and, 3, in nearly every case the absence of true labour pains. These, taken together, were held sufficient to point out the true nature of the accident. When no pain was present, the state was very liable to be mistaken for ordinary syncope; and the author urged that in all cases of severe and protracted faintness during the latter months of pregnancy or labour, the state of the uterus should be carefully watched. It was also advised that the same treatment as is now adopted in ordinary accidental hæmorrhage should be employed as early as possible in this form, though the usual good results could scarcely be expected, because, although the contents of the uterus were thereby diminished, yet as the effused blood, being bound down by the placenta, prevented the uterus from contracting at that part, the bleeding sinuses were kept patent. This was borne out by the analysis of the twenty-one cases.

Dr. Tanner had recorded a case of concealed accidental hæmorrhage, which had escaped the notice of the author of the paper. The communication was to be found in the *Medical Times* of Oct. 18th, 1851. In this instance, the separation of the placenta was due to a violent fall; and the patient would doubtless have died had not the labour been hurried, and the delivery effected by the forceps. As it was, large quantities of stimulants were required, and the infant was still-born.

Editor's Letter Box.

COMPARATIVE EXPENDITURE OF PROVINCIAL HOSPITALS.

Letter from T. Inman, M.D.

Sir,—Circumstances induced me awhile ago to compare the expenditure of the chief Provincial Hospitals one with another. As the facts developed themselves, it appeared to me that other persons would be, equally with myself, interested in the result. I send you, therefore, a copy of the table I drew up. [*See Table, next page.*]

One word or two respecting it. Its bases are the reports for 1859, politely furnished to me by the house-surgeons of the various establishments referred to, and for these I beg now cordially to thank them.

The figures are not *absolutely* correct, for many reports do not give the average number of in- or out-patients; and when this is the case, the only guide is to strike an average between the patients said to be "on the books" at the beginning and end of the year.

But there is a sufficiently near approach to accuracy to make the statistics valuable as a means of comparison; and any institution by an ordinary proportion sum may arrive at the true figures by using the table as a basis of calculation.

I have reduced all to an uniform per centage scale, so far as I could do so. Thus, if Hull and Brighton, with an average of one hundred in-patients, spend in reality £2230 and £5333 respectively, Manchester, with two hundred at the same rate, would spend in reality £4460 or £10,666, but its real expenditure is £11,811:1:8. Consequently, its expenditure per 100 patients is expressed by the figures £5905.

It is only by reducing every item to a definite scale, that comparisons can fairly be made.

I am, etc., Thomas Inman, M.D.

Liverpool, July 1860.

P.S.—Since the above was written, the manager of the Liverpool Northern Hospital has been committed to the assizes for forgery and embezzlement of the funds of the Institution. The frauds have extended over many years, probably fifteen. The amount of defalcation is estimated at upwards of £8000. This year alone it has amounted to upwards of £930. I have sent you a paper with an account of the trial before the magistrates, and the mode by which the frauds were effected.

TABLE.

Locality, etc., of Hospital.	Actual cost per 100 patients per annum.	Average number of in-patients.	Average number of out-patients.	Meat, etc.; account per 100 per annum.	Drugs, etc., for out- and in-pat., per 100 per ann., not including wines, &c.	Bread, flour, and groceries, per 100 per ann.
	£.			£.	£.	£.
Hull	2230	100	570	490	120	418
Liverpool Lock....	2443	39	0	384	160	146
Newcastle	2645	163	500	416	172	379
Derby	2719	94	190	470	160	374
Devon and Exeter	2741	175	none?	420	308	370
Liverpool Southern	2950	80	none.	560	166	368
Sheffield	2974	116	475	536	66	301
Norwich.....	3022	119	750?	510	120	370
Colchester	3121	52	160	676	60	482
Canterbury	3122	76	228	483	73	310
Liverpool Infirmary	3146	184	none.	444	285	466
South Staffordshire	3191	60	300	..	100	..
Leeds.....	3248	160	750	651	100	425
Oxford	3274	116	348	637	101	341
Lincoln	3332	74	?	557	222	391
Gloucester	3443	90	67?	516	150	363
Worcester	3566	83	150	573	128	431
Northampton	3773	103	500	668	110	297
Stafford	4056	57	160	824	180	412
North Staffordshire	4202	75	700	615	68	482
Chester	4283	55?	310?	549	182	461
Bath	4295	90	1200?	..	80?	..
Liverpool Northern	4327	90	none.	654	486	806
Winchester	4378	70	210?	592	140	428
Salisbury	4443	76	230?	575	80	447
Brighton	5333	100	300?	985	100	698
Manchester	5905	200	1000?	917	176	491

Parliamentary Intelligence.

HOUSE OF COMMONS.—Friday, July 13th, 1860.

Case of Dr. Guydir.—Colonel GREVILLE asked the Judge-Advocate whether it was true that Dr. Guydir, assistant-surgeon, Royal Longford Rifles, who was tried by a general court-martial on the 1st and 2nd of June last, was placed in arrest on the 10th day of May last, and still remains under arrest, and debarred from practising his profession, in consequence of the finding of the Court not having yet been promulgated by the authorities.

Mr. HEADLAM said it was perfectly true that Dr. Guydir had, in accordance with the rules of the service, been placed under arrest on the 10th of May, and that some delay had taken place before he had been tried before a court-martial. The trial had, however, come on early in June, and he had subsequently had two audiences of Her Majesty to ascertain her pleasure with respect to the finding of the Court. The matter had eventually been brought under the consideration of the Commander-in-Chief, and he was happy to say that the result was, that Dr. Guydir would be released immediately by order of the Lord-Lieutenant of the county.

Monday, July 16th.

Vaccine Board.—Mr. BRADY asked whether it was the intention of the Government to institute a Vaccine Board in Dublin similar to that which exists in London. He also asked the Chief Secretary for Ireland if his attention had been directed to the fact that the Board of the Cow-Pock Institution of Dublin charges 2*s.* 6*d.* for two ivory-charged points of vaccine lymph to medical men, while the said Board receives an annual grant of £400 for the better supply of pure lymph for the protection of the people.

Mr. CARDWELL was understood to say that he had caused inquiries to be made into the subject to which the hon. gentleman referred, but their result had not yet reached him.

Tuesday, July 17th.

Public Walks and Open Grounds.—Mr. SLANEY gave notice that he would, early next Session, move the appointment of a Committee to consider and report how best to obtain reserved space for public walks and open grounds near great towns for the health and recreation of the people.

Wednesday, July 18th.

Medical Act.—The Medical Act (1858) Amendment Bill was read a third time, and passed.

Adulteration of Food and Drink Bill.—On the question that the Lords' amendments to this Bill be agreed to—

Mr. WARNER moved that in Clause 1 the word "warranted", struck out by the Lords, should be reinserted; but,

After a short conversation, the motion was negatived, without a division, and the Lords' amendments to the Bill agreed to.

Coroners (No. 3) Bill.—Mr. COBBETT, with some prefatory observations, showing the necessity of legislation upon the subject, moved the second reading of the Coroners (No. 3) Bill, the principle of which had been recommended by the commission of 1859 and the committee of the present year.

Mr. DEEDES supported the second reading of the Bill, in order that the question between the coroners and the magistrates might be settled.

Sir G. LEWIS observed that it was generally felt that some remedy was required, and, although he had been of opinion that the coroners should continue to be paid by fees, if the House desired to try the experiment of paying them by salary, he would not oppose the proposition. The coroner was elected by the freeholders, and held his office by a stronger tenure than the judges, being practically immovable, and he suggested that the Crown should be empowered to remove a coroner in case of incapacity or neglect. He doubted whether the mode of electing such an officer was an expedient one, and thought the nomination might be given to the Lord-Lieutenant of the county. He was prepared to vote for the second reading of the Bill.

The discussion which followed related to details, and the Bill was read a second time and committed *pro formâ*.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of a son, the wife of—

ARCHER, A. L., Esq., Surgeon R.N., at Stoke, Devonport, on July 10.

Of a daughter, the wife of—

HUGHES, A. C., Esq., Surgeon, Liverpool, on July 15.

Of twins, a son and daughter, the wife of—

BROWN, Robert G., M.R.C.P., at Hampstead, on July 12.

MARRIAGES.

BEARD, C. J., M.D., of Brighton, to Emily, younger daughter of William IZARD, Esq., of Brighton, on June 25.

FISH, the Rev. J. D., M.A., to Henrietta B., youngest daughter of *Shearman CHESTERMAN, Esq., of Banbury, on July 17.

MACANDREW, Henry, M.D., 57th Regiment, to Miss Julia M. COCKRELL, of Woodlands, Twickenham, on July 13.

STOTON, William O., Esq., to Elizabeth Anne, eldest daughter of *Alfred W. F. JESTON, Esq., of Malmesbury, on July 12.

DEATHS.

BOWEN. On July 13th, at Ilford, Essex, aged 26, Jane, wife of Francis Bowen, Esq., late Surgeon to the Royal Hibernian Military School, Dublin.

CRAWFORD. On May 23rd, at Secunderabad, Clara F., wife of Thomas Crawford, M.D., 18th Regiment.

HICKMAN, William, Esq., Surgeon, in Duke Street, St. James's, on July 12.

HINGSTON, Richard, Esq., Surgeon, at Liskeard, aged 81, on July 13.

LIND, James P., M.D., at Ryde, aged 69, on July 10.

MORTALITY IN GOVERNMENT EMIGRATION. In the seven years that have elapsed since the 1st of January 1853, the mortality in 524 emigrant ships sent out by the Emigration Commissioners, carrying 172,233 souls, has amounted to only 2,226—equal to 1·31 per cent.

HEALTH OF LONDON—JULY 14TH, 1860.

[*From the Registrar-General's Report.*]

		Births.	Deaths.
During week	Boys.. 935 / Girls.. 819	1754	1015
Average of corresponding weeks 1850-9		1488	1104

Among the causes of death were—bronchitis, 61; pneumonia, 48; phthisis, 152; small-pox, 9; scarlatina, 29; measles, 61; diphtheria, 5; hooping-cough, 27. The deaths from pulmonary diseases (exclusive of phthisis) were 123, being 25 above the corrected average.

Barometer:

Highest (Sun.) 30·075; lowest (Sat.) 29·668; mean 29·870.

Thermometer:

In sun—highest (Th.) 124·0 degrees; lowest (Tu.) 72·0 degrees.
In shade—highest (Sat.) 74·3 degrees; lowest 44·6 degrees.
Mean—57·4 degrees; difference from mean of 43 yrs.—1·3 degrees.
Range—during week, 29·7 degrees; mean daily, 20·9 degrees.

Mean humidity of air (*saturation*=100), 85.

Mean direction of wind, N.E.—Rain in inches, 0·00.

TO CORRESPONDENTS.

ERRATA.—In the abstract of Dr. Edward Smith's paper on the Action of Tea and Alcohols, at p. 548 of last number, the following corrections require to be made:

Line 5 of article, *after* "opposed to," *insert* "or in favour of."
Line 18, *for* "instructive," *read* "instinctive."
Line 22, and also line 4 from bottom, *for* "certain," *read* "sustain."
Line 25, *for* "accumulation," *read* "assimilation."

Members should remember that corrections for the current week's JOURNAL should not arrive later than Wednesday.

ANONYMOUS CORRESPONDENTS should always enclose their names to the Editor; not for publication, but in token of good faith. No attention can be paid to communications not thus authenticated.

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Communications have been received from:—DR. THOMAS INMAN; DR. MC WILLIAM; DR. HUMPHEY; MR. GEO. JOHNSON; DR. RANKING; DR. PAGET; MR. JAS. CARTER; MR. OLIVER PEMBERTON; MR. T. L. PRIDHAM; MR. D. KENT JONES; DR. EDWARD SMITH; DR. A. T. H. WATERS; REV. A. B. WHATTON; DR. C. M. DURRANT; MR. R. S. FOWLER; DR. C. M. BURNETT; DR. M. A. E. WILKINSON; and DR. P. H. WILLIAMS.

BOOKS RECEIVED.

[* *An Asterisk is prefixed to the Names of Members of the Association.*]

1. Diseases of the Heart: their Pathology, Diagnosis, and Treatment. By *W. O. Markham, M.D. Second Edition. London: Churchill. 1860.
2. The Wife's Domain. By Philothalos. London: Churchill. 1860.
3. The Pocket Formulary. By Henry Beasley. Seventh Edition. London: Churchill. 1860.
4. The Nature, Prevention, and Treatment of Spinal Curvatures and Deformities of the Chest and Limbs. By Mrs. Godfrey. Third Edition, carefully revised and enlarged. London: Churchill. 1860.

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☞ See J. H. D.'s Paper read at the Meeting of the London Photographic Society (PHOTOGRAPHIC JOURNAL, June 15).

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